HCT CO.,LTD.
74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Rep. of Korea
TEL: +82-31-645-6300 FAX: +82-31-645-6401

EMI TEST REPORT
FCC CERTIFICATION

Applicant:
SAMSUNG Electronics Co., Ltd.
129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea

Date of Issue: June 11, 2021
Test Report No. HCT-EM-2105-FC006-R1
Test Site: HCT CO., LTD.

FCC ID : **A3LSMG990U**

Rule Part(s) / Standard(s)	:	47 CFR PART 15 Subpart B Class B ANSI C63.4-2014
Product Name	:	Mobile Phone
Model Name	:	SM-G990U
Series Model Name	:	SM-G990U1/DS, SM-G990U1
Date of Test	:	May 13, 2021 to May 24, 2021

The device bearing the trade name and model specified above, has been shown to comply with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.4-2014. (See Test Report if any modifications were made for compliance)
I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Tested By

Geon-Hee Jeon
Test Engineer
EMC Team
Certification Division

Reviewed

Jeong-Hyun Choi
Technical Manager
EMC Team
Certification Division

This report only responds to the tested sample and may not be reproduced, except in full, without written approval of the HCT Co., Ltd.

REVISION HISTORY

The revision history for this document is shown in table.

Rev No.	Issue Date	Information About Changes
0	May 26, 2021	Initial Release
1	June 11, 2021	Added the Series Model Name

The above Test Report is not related to the accredited test result by (KS Q) ISO/IEC 17025 and KOLAS (Korea Laboratory Accreditation Scheme) / A2LA (American Association for Laboratory Accreditation), which signed the ILAC-MRA.

* The report shall not be reproduced except in full(only partly) without approval of the laboratory.

TABLE OF CONTENTS

PAGE

1. GENERAL INFORMATION 4
1.1 Description of EUT 4
1.2 Tested System Details 5
1.3 Cable Description 6
1.4 Noise Suppression Parts on Cable. (I/O Cable) 6
1.5 Test Facility 7
1.6 Calibration of Measuring Instrument 7
1.7 Measurement Uncertainty 7
2. LIST OF TEST EQUIPMENT 8
3. DESCRIPTION OF TEST 9
3.1 Measurement of Conducted Emission 9
3.2 Measurement of Radiated Emission 10
4. PRELIMINARY TEST 13
4.1 Conducted Emission 13
4.2 Rediated Emission 13
5. CONDUCTED AND RADIATED EMISSION TEST SUMMARY 15
5.1 Conducted Emission 15
5.2 Radiated Emission 40
6. CONCLUSION 55
7. APPENDIX A. TEST SETUP PHOTO 70

1. GENERAL INFORMATION

1.1 Description of EUT

FCC ID	A3LSMG990U	
Model Name	SM-G990U	
Series Model Name	SM-G990U1/DS, SM-G990U1	
Product Name	Mobile Phone	
Frequency Band	CDMA BC0/1/10, GSM 850/1900, WCDMA B2/4/5, LTE B2/4/5/7/12/13/14/25/26/30/38/40/41/48/66/71, (Rx only: LTE B29/46) 5G FR1 n2/n5/n12/n25/n30/n41/n66/n71/n77, FR2 n260/n261, BT BDR/EDR/LE(5.0), WLAN a/b/g/n/ac/ax, WPT, NFC	
Power Voltage	Travel adaptor	Input: 100~240 V, 50~60 ㎐, 0.7 A Output: (PDO)5.0 V, 3.0 A or 9.0 V, 2.77 A (PPS)3.3~5.9 V, 3.0 A or 3.3~11.0 V, 2.25 A
	Travel adaptor	Input: 100~240 V, 50~60 ㎐, 1.2 A Output: (PDO)5.0 V, 3.0 A or 9.0 V, 3.0 A or 15.0 V, 3.0 A or 20.0 V, 2.25 A (PPS)3.3~11.0 V, 4.05 A or 3.3~16.0 V, 2.8 A or 3.3~21.0 V, 2.1 A
	Battery	Li-ion Battery Low: 3.65 V, Normal: 3.88 V, High: 4.47 V

1.2 Tested System Details

All equipment descriptions used in the tested system (including inserted cards) are:

Device Type	Model Name	Serial Number	Manufacturer
EUT	SM-G990U	-	SAMSUNG
Notebook PC	ProBook650G2	5CG6331M0P	HP
Notebook PC Adaptor	Series PPP009L-E	-	LITE-ON TECHNOLOGY (CHANGZHOU)
Gateway	DIR-806M	-	D-Link
Gateway Adaptor	AMS1-0501200FK	-	D-Link
Serial Mouse	Serial 2 Button mouse	02031069	Radio Shack
RJ45 cable	-	-	-
TA	EP-TA800	-	SOLUM
TA	EP-TA845	-	DONGYANG
Data Cable	EP-DN980BWZ	-	RF-TECH
Data Cable	EP-DN980BWE	-	RF-TECH
Earphone	YBD-19HS	-	BUJEON
WPT Device 1	SM-G986B/DS	-	SAMSUNG
WPT Device 2	SM-R835F	-	SAMSUNG

1.3 Cable Description

Product Name	Port	Power Cord Shielded (Y/N)	I/O Cable Shielded (Y/N)	Length (m)
EUT	USB Type C (Data Cable)	Y	Y	(P,D) 1.0
	USB Type C (Earphone)	N/A	N	(D) 1.3
Notebook PC	RJ 45	N/A	N	(D) 1.6
	Serial(Mouse)	N/A	Y	(D) 1.8
	DC IN	N	N/A	(P) 1.8
Gateway	DC IN	N	N/A	(P) 1.8

"(D)" Data Cable and "(P)" Power Cable.

1.4 Noise Suppression Parts on Cable. (I/O Cable)

Product Name	Port	Ferrite Bead (Y/N)	Location	Metal Hood (Y/N)	Location
EUT	USB Type C (Data Cable)	N	N/A	Y	Both End
	USB Type C (Earphone)	N	N/A	Y	EUT End
Notebook PC	RJ 45	N	N/A	N	N/A
	Serial(Mouse)	N	N/A	Y	Notebook End

1.5 Test Facility

Test site is located at 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Korea.
Those measurement facilities are constructed in conformance with the requirements of ANSI C63.4-2014.
The Normalized site attenuations (30 ㎒ to 1 ㎓) and Site validation (1 ㎓ to 18 ㎓) were performed in accordance with the standard in ANSI C63.4-2014.
Our laboratories are accredited and designated in accordance with the provisions of Radio Waves ACT and International Standard ISO/IEC 17025:2017. (National Radio Research Agency, Designation No. KR0032)

1.6 Calibration of Measuring Instrument

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturers recommendations for utilizing calibration equipment, which is traceable to recognized national standards.
Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5:2017

1.7 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4-2014.
All measurement uncertainty values are shown with a coverage factor of $k = 2$ to indicate a 95 % level of confidence. The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Test Item	Test Site (Chamber)	Expanded Uncertainty
Conducted Emission	EMI Shield Room	1.6 ㏈
Radiated Emission (30 ㎒ to 1 ㎓)	3 m Semi Anechoic Chamber #1	4.9 ㏈
Radiated Emission (1 ㎓ to 18 ㎓)	3 m Semi Anechoic Chamber #1	4.6 ㏈
Radiated Emission (18 ㎓ to 40 ㎓)	3 m Semi Anechoic Chamber #1	5.6 ㏈

2. LIST OF TEST EQUIPMENT

Type	Model Name	Manufacturer	Serial Number	Calibration Cycle	Calibration Date
Conducted Emission					
☒ EMI Test Receiver	ESR7	Rohde & Schwarz	101910	1 year	09.16.2020
☒ LISN	ENV216	Rohde & Schwarz	102245	1 year	09.04.2020
☒ Radio communication analyzer	MT8821C	ANRITSU	6262192376	1 year	12.24.2020
☒ Antenna (for Communication)	USLP9142	Schwarzbeck	USLP 9142-200	N/A	-
☒ Radio communication analyzer	MT8000A	ANRITSU	6262208294	1 year	12.24.2020
☒ Antenna (for Communication)	USLP9142	Schwarzbeck	USLP 9142-201	N/A	-
☒ Software	EMC32	Rohde & Schwarz	-	-	-
Radiated Emission					
-For measurement below 1 ㎓					
☒ EMI Test Receiver	ESU40	Rohde & Schwarz	100524	1 year	05.10.2021
☒ Bi-Log Antenna	VULB9168	Schwarzbeck	255	2 year	03.15.2021
☒ Antenna master	MA4640-XP-ET	INNCO SYSTEM	-	N/A	-
☒ Antenna master controller	CO3000	INNCO SYSTEM	CO3000/870/ 35990515/L	N/A	-
☒ Turn Table	1060	INNCO SYSTEM	-	N/A	-
☒ Turn Table controller	CO2000	INNCO SYSTEM	CO2000/095/ 7590304/L	N/A	-
☒ Radio communication analyzer	MT8821C	ANRITSU	6262192376	1 year	12.24.2020
☒ Antenna (for Communication)	USLP9142	Schwarzbeck	USLP 9142-200	-	-
☒ Radio communication analyzer	MT8000A	ANRITSU	6262208294	1 year	12.24.2020
☒ Antenna (for Communication)	USLP9142	Schwarzbeck	USLP 9142-201	-	-
☒ Software	EMC32	Rohde & Schwarz	-	-	-
-For measurement above 1 ㎓					
☒ EMI Test Receiver	ESU40	Rohde & Schwarz	100524	1 year	05.10.2021
☒ Antenna master	MA4640-XP-ET	INNCO SYSTEM	-	N/A	-
☒ Antenna master controller	CO3000	INNCO SYSTEM	CO3000/870/ 35990515/L	N/A	-
☒ Turn Table	1060	INNCO SYSTEM	-	N/A	-
☒ Turn Table controller	CO2000	INNCO SYSTEM	CO2000/095/ 7590304/L	N/A	-
☒ Low Noise Amplifier	TK-PA18H	TESTEK	170034-L	1 year	03.02.2021
☒ Low Noise Amplifier	TK-PA1840H	TESTEK	170030-L	1 year	03.09.2021
☒ Horn Antenna	BBHA 9120D	Schwarzbeck	01836	1 year	07.23.2020
☒ Horn Antenna	BBHA 9170	Schwarzbeck	BBHA 9170 #786	1 year	11.18.2020
☒ Radio communication analyzer	MT8821C	ANRITSU	6262192376	1 year	12.24.2020
☒ Antenna (for Communication)	USLP9142	Schwarzbeck	USLP 9142-200	-	-
☒ Radio communication analyzer	MT8000A	ANRITSU	6262208294	1 year	12.24.2020
☒ Antenna (for Communication)	USLP9142	Schwarzbeck	USLP 9142-201		
☒ Software	EMC32	Rohde & Schwarz	-	-	-

3. DESCRIPTION OF TEST

3.1 Measurement of Conducted Emission

The test procedure was in accordance with ANSI C63.4-2014, Clause 7.3

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN).
If the EUT is connected to the PC through USB, the AC power-line adapter of the PC is directly connected to a line impedance stabilization network (LISN).
Other support units were connected to the power mains through another LISN. The two LISNs provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

b. Both conducted lines are measured in Quasi-Peak and Average mode, including the worst-case data points for each tested configuration.

c. The frequency range from 150 kHz to 30 ㎒ was searched.

[Conducted Emission Limits]

Frequency (㎒)	Resolution Bandwidth (kHz)	Quasi-Peak (dB(㎶))	Average (dB(㎶))
0.15 to 0.5	9	66 to 56*	56 to 46*
0.5 to 5	9	56	46
5 to 30	9	60	50

**Decreases with the logarithm of the frequency.*

3.2 Measurement of Radiated Emission

The test procedure was in accordance with ANSI C63.4-2014, Clause 8.3

a. The EUT was placed on the top of a turn table 0.8 meters above the ground at a semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 m away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The antenna height is varied from 1 m to 4 m above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 m to 4 m and the turn table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to Quasi-Peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 ㎓.
f. The test-receiver system was set to Peak and Average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 ㎓.
g. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. (1 ㎓ to 40 ㎓)

[Radiated Emission Limits]

Frequency (㎒)	Antenna Distance (m)	Field Strength (㎶/m)	Quasi-Peak (dB(㎶)/m)
30 to 88	3	100	40.0
88 to 216	3	150	43.5
216 to 960	3	200	46.0
Above 960	3	500	54.0
Frequency (㎒)	Antenna Distance (m)	Peak (dB(㎶)/m)	Average (dB(㎶)/m)
Above 1 000	3	74	54

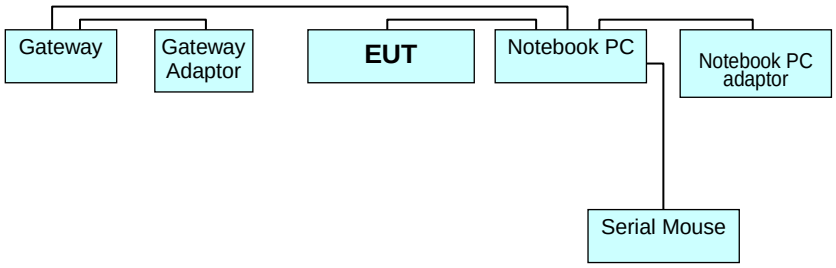
3.2.1 Frequency Range of Radiated Measurements

An unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a Radiated Emission limit is specified, up to the frequency shown in the following table

Highest frequency generated or used in the device or on which the device operates or tunes (㎒)	Upper frequency of measurement range (㎒)
Below 1.705	30
1.705 to 108	1 000
108 to 500	2 000
500 to 1 000	5 000
Above 1 000	5th harmonic of the highest frequency or 40 ㎓, whichever is lower

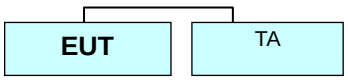
3.3 Configuration of Tested System

[EUT+Notebook] Data Communication mode (Internal)



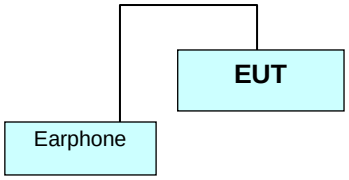
Non-Conductive Table

[EUT+TA] Receiver / Video+Audio / Front/Rear Camera mode



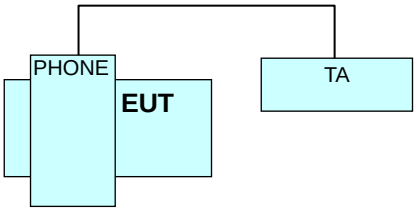
Non-Conductive Table

[EUT+Earphone] Receiver / Video+Audio / Front/Rear Camera mode



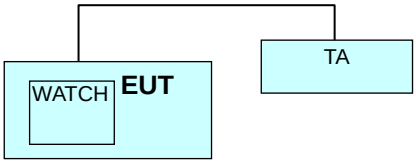
Non-Conductive Table

[Wireless Charging mode] PHONE TO PHONE



Non-Conductive Table

[Wireless Charging mode] PHONE TO WATCH



Non-Conductive Table

4. PRELIMINARY TEST

During preliminary tests, the following operating mode was investigated.

Data Communication (Internal)
Front/Rear Camera (Preview/Recording)
Video + Audio (TA/Earphone)
Wireless Charging (PHONE TO PHONE) mode
Wireless Charging (PHONE TO WATCH) mode
Receiver mode(GSM 850 Low/Middle/High ch Idle)
Receiver mode(CDMA BC0/BC10 Low/Middle/High ch Idle)
Receiver mode(WCDMA B5 Low/Middle/High ch Idle)
Receiver mode(LTE B5/B12/B13/B14/B26/B29/B71_Low/Middle/High ch)
Receiver mode(5G NR n5/n12/n71_Low/Middle/High ch)
Receiver mode(earphone)
Charging mode(45W)

NOTE. The worst band is tested.

4.1 Conducted Emission

It was tested the following operating mode, after connecting all peripheral devices.

Operating Mode:

[EUT+Notebook PC]
Data Communication mode (Internal)

[EUT + TA]
Video + Audio mode
Wireless Charging (PHONE TO PHONE) mode
Wireless Charging (PHONE TO WATCH) mode
LTE B14 Middle ch Idle + Front Camera mode
LTE B29 Middle ch Idle + Rear Camera mode

4.2 Radiated Emission

It was tested the following operating mode, after connecting all peripheral devices.

Operating Mode:

Radiated Emission below 1 ㎓ : [EUT+Notebook PC]
Data Communication mode (Internal) *

[EUT + TA]
Video + Audio mode*
Wireless Charging (PHONE TO PHONE) mode*
Wireless Charging (PHONE TO WATCH) mode*
LTE B26+B5+5G NR n5 Low ch Idle
LTE B26+B5+5G NR n5 Middle ch Idle*
LTE B26+B5+5G NR n5 High ch Idle
LTE B12+B13 Low ch Idle
LTE B12+B13 Middle ch Idle*
LTE B12+B13 High ch Idle
LTE B14 Low ch Idle
LTE B14 Middle ch Idle + Front Camera mode*
LTE B14 High ch Idle
LTE B29 Low ch Idle
LTE B29 Middle ch Idle + Rear Camera mode*
LTE B29 High ch Idle
LTE B71+5G NR n71 Low ch Idle
LTE B71+5G NR n71 Middle ch Idle*
LTE B71+5G NR n71 High ch Idle

[EUT + Earphone]
Video + Audio mode*
LTE B14 Middle ch Idle + Front Camera mode*

Radiated Emission above 1 ㎓ : [EUT+Notebook PC]
Data Communication mode (Internal) *

[EUT + TA]
Video + Audio mode*
Wireless Charging (PHONE TO PHONE) mode*
Wireless Charging (PHONE TO WATCH) mode*
LTE B14 Middle ch Idle + Front Camera mode*
LTE B29 Middle ch Idle + Rear Camera mode*

[EUT + Earphone]
Video + Audio mode*
LTE B14 Middle ch Idle + Front Camera mode*

NOTE.
1. Three orientations have been investigated and the worst case orientation (x-axis: The display of EUT placed on the table is facing upwards) is reported.
2. The worst case of operating mode is reported. [*].

5. CONDUCTED AND RADIATED EMISSION TEST SUMMARY

5.1 Conducted Emission

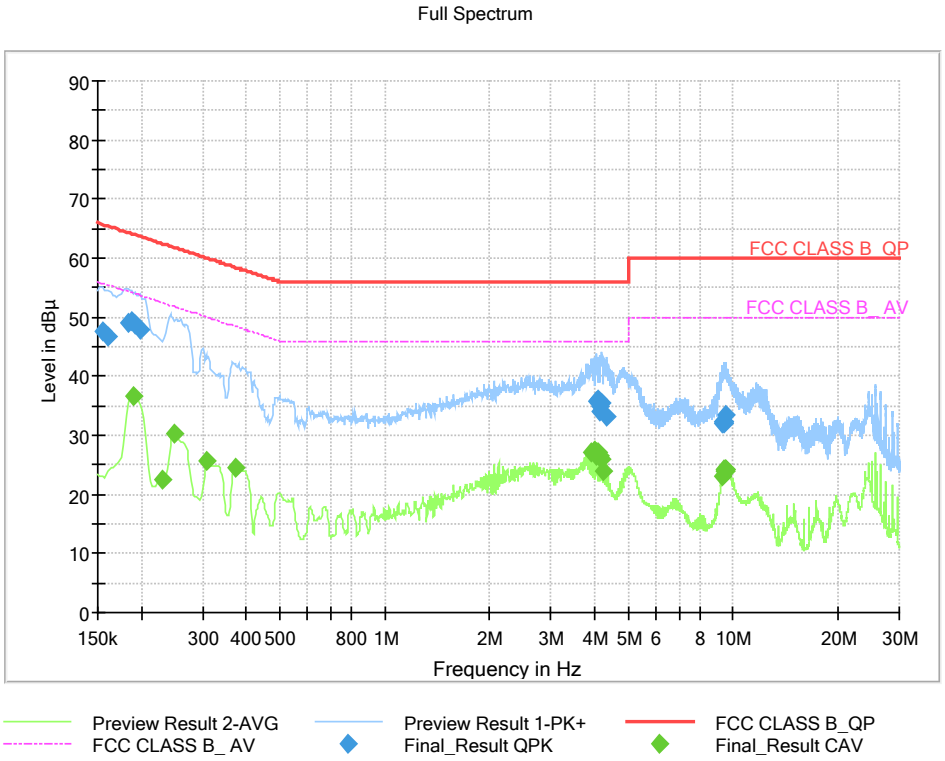
The test results of conducted emission at mains ports provide the following information:

Used Test Standard	47 CFR PART 15 Subpart B Class B ANSI C63.4-2014
Frequency Range	150 ㎑ to 30 ㎒
Detector	Quasi-Peak, CISPR-Average
Bandwidth	9 kHz (6 ㏈)
Operating Mode	[EUT+Notebook PC] Data Communication mode (Internal) [EUT + TA] Video + Audio mode Wireless Charging (PHONE TO PHONE) mode Wireless Charging (PHONE TO WATCH) mode LTE B14 Middle ch Idle + Front Camera mode LTE B29 Middle ch Idle + Rear Camera mode
Test Site	EMI Shield Room
Temperature	21.6 – 24.2 °C
Relative Humidity	44.8 – 46.0 %
Test Date	May 18, 2021 – May 24, 2021

- Calculation Formula:

1. Conductor L1 = Hot, Conductor N = Neutral
2. Corr. = LISN Factor + Cable Loss
3. QuasiPeak or CAverage= Receiver Reading + Corr.
4. Margin = Limit – QuasiPeak or CAverage

Figure 1: Conducted Emission, Data Communication (Internal), Line (L1)



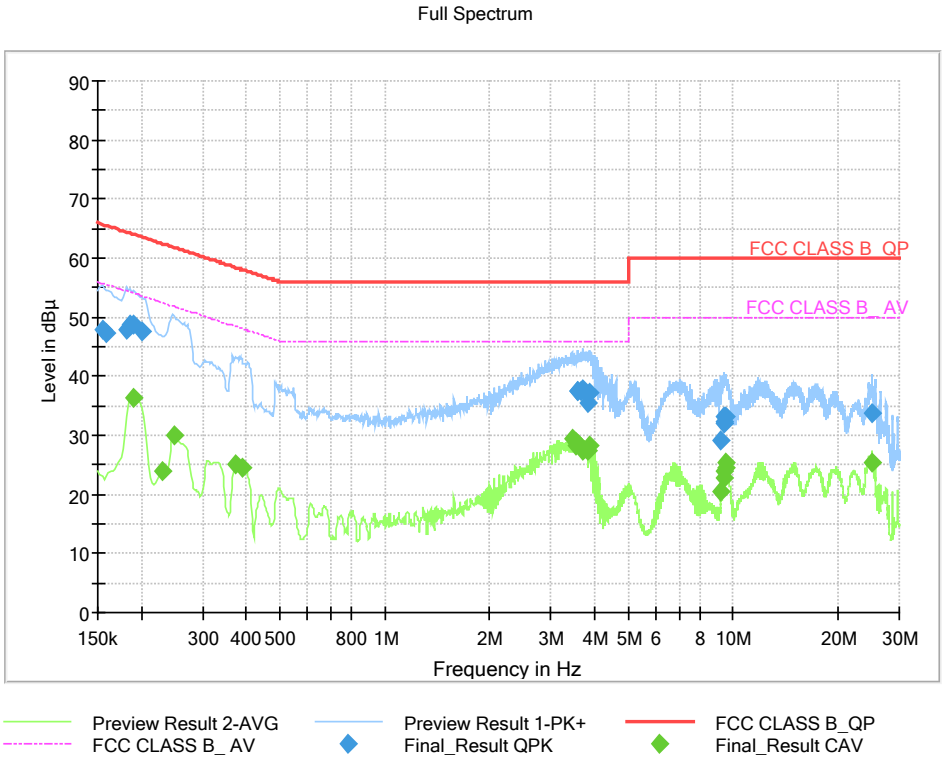
QuasiPeak Final Result

Frequency (㎒)	QuasiPeak (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1545	47.58	65.75	18.17	9.000	L1	9.6
0.1613	46.72	65.40	18.68	9.000	L1	9.6
0.1838	49.18	64.31	15.13	9.000	L1	9.6
0.1883	49.18	64.11	14.93	9.000	L1	9.6
0.1928	48.62	63.92	15.29	9.000	L1	9.6
0.1995	47.94	63.63	15.70	9.000	L1	9.6
4.0528	35.90	56.00	20.10	9.000	L1	9.7
4.1135	36.08	56.00	19.92	9.000	L1	9.7
4.1225	34.80	56.00	21.20	9.000	L1	9.7
4.1428	34.14	56.00	21.86	9.000	L1	9.7
4.1900	35.47	56.00	20.53	9.000	L1	9.7
4.3273	33.19	56.00	22.81	9.000	L1	9.7
9.3223	32.41	60.00	27.59	9.000	L1	9.8
9.3335	31.96	60.00	28.04	9.000	L1	9.8
9.3988	32.22	60.00	27.78	9.000	L1	9.8
9.4055	32.38	60.00	27.62	9.000	L1	9.8
9.4505	32.12	60.00	27.88	9.000	L1	9.8
9.5360	33.49	60.00	26.51	9.000	L1	9.8

CAverage Final Result

Frequency (㎒)	CAverage (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1905	36.55	54.02	17.46	9.000	L1	9.6
0.2288	22.37	52.50	30.13	9.000	L1	9.6
0.2490	30.40	51.79	21.39	9.000	L1	9.6
0.3098	25.59	49.98	24.38	9.000	L1	9.6
0.3750	24.46	48.39	23.93	9.000	L1	9.6
3.9178	27.11	46.00	18.89	9.000	L1	9.7
3.9830	27.46	46.00	18.54	9.000	L1	9.7
4.0685	26.55	46.00	19.45	9.000	L1	9.7
4.1113	27.15	46.00	18.85	9.000	L1	9.7
4.1315	26.41	46.00	19.59	9.000	L1	9.7
4.1900	26.04	46.00	19.96	9.000	L1	9.7
4.2508	24.07	46.00	21.93	9.000	L1	9.7
9.3515	23.12	50.00	26.88	9.000	L1	9.8
9.4123	23.97	50.00	26.03	9.000	L1	9.8
9.4438	24.30	50.00	25.70	9.000	L1	9.8
9.4798	24.24	50.00	25.76	9.000	L1	9.8
9.5383	24.25	50.00	25.75	9.000	L1	9.8
9.5720	24.01	50.00	25.99	9.000	L1	9.8

Figure 2: Conducted Emission, Data Communication (Internal), Line (N)



HCT CO.,LTD.

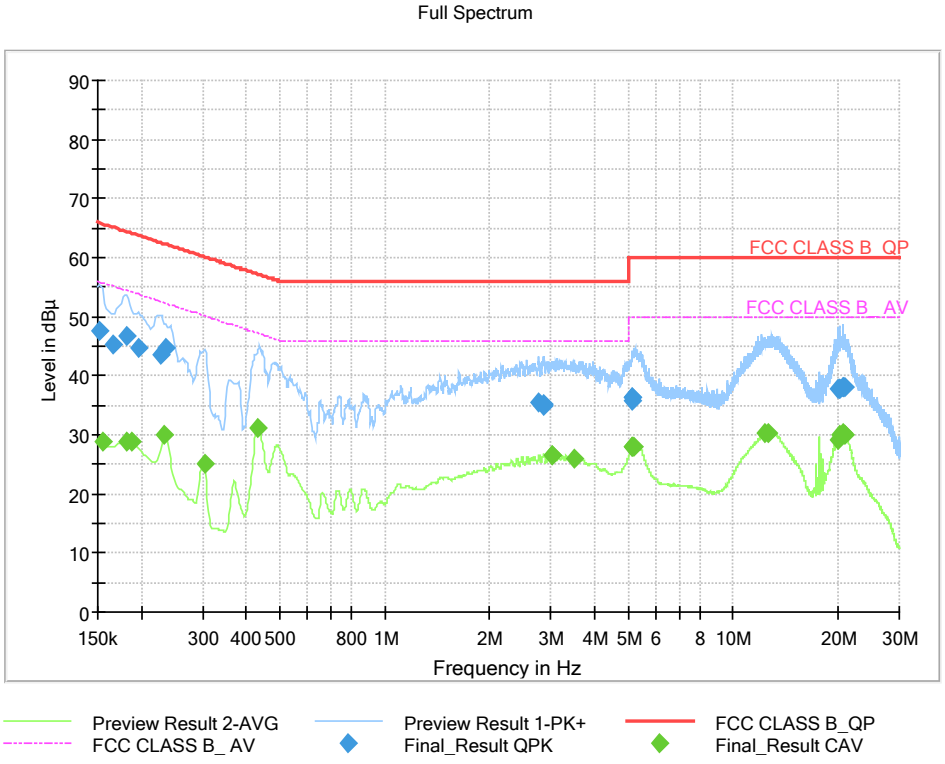
QuasiPeak Final Result

Frequency (㎒)	QuasiPeak (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1545	47.88	65.75	17.87	9.000	N	9.6
0.1590	47.26	65.52	18.26	9.000	N	9.6
0.1815	47.76	64.42	16.65	9.000	N	9.6
0.1860	48.87	64.21	15.34	9.000	N	9.6
0.1905	48.84	64.02	15.18	9.000	N	9.6
0.2018	47.46	63.54	16.08	9.000	N	9.6
3.5668	37.58	56.00	18.42	9.000	N	9.7
3.5780	37.55	56.00	18.45	9.000	N	9.7
3.6703	37.50	56.00	18.50	9.000	N	9.7
3.7153	37.66	56.00	18.34	9.000	N	9.7
3.8458	35.41	56.00	20.59	9.000	N	9.7
3.8570	37.23	56.00	18.77	9.000	N	9.7
9.2503	29.17	60.00	30.83	9.000	N	9.8
9.3718	32.16	60.00	27.84	9.000	N	9.8
9.4325	32.45	60.00	27.55	9.000	N	9.8
9.4573	33.05	60.00	26.95	9.000	N	9.8
9.4933	33.10	60.00	26.90	9.000	N	9.8
25.0633	33.77	60.00	26.23	9.000	N	10.0

CAverage Final Result

Frequency (㎒)	CAverage (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1905	36.28	54.02	17.74	9.000	N	9.6
0.2288	23.95	52.50	28.55	9.000	N	9.6
0.2490	30.11	51.79	21.68	9.000	N	9.6
0.3750	24.99	48.39	23.40	9.000	N	9.6
0.3885	24.59	48.10	23.51	9.000	N	9.6
3.4655	29.29	46.00	16.71	9.000	N	9.7
3.5285	28.93	46.00	17.07	9.000	N	9.7
3.5420	28.16	46.00	17.84	9.000	N	9.7
3.5893	28.56	46.00	17.44	9.000	N	9.7
3.7130	27.44	46.00	18.56	9.000	N	9.7
3.8210	27.33	46.00	18.67	9.000	N	9.7
3.8615	28.30	46.00	17.70	9.000	N	9.7
9.2480	20.37	50.00	29.63	9.000	N	9.8
9.3673	22.88	50.00	27.12	9.000	N	9.8
9.4303	23.93	50.00	26.07	9.000	N	9.8
9.4820	25.31	50.00	24.69	9.000	N	9.8
9.4933	24.52	50.00	25.48	9.000	N	9.8
25.0633	25.30	50.00	24.70	9.000	N	10.0

Figure 3: Conducted Emission, Video + Audio, Line (L1)



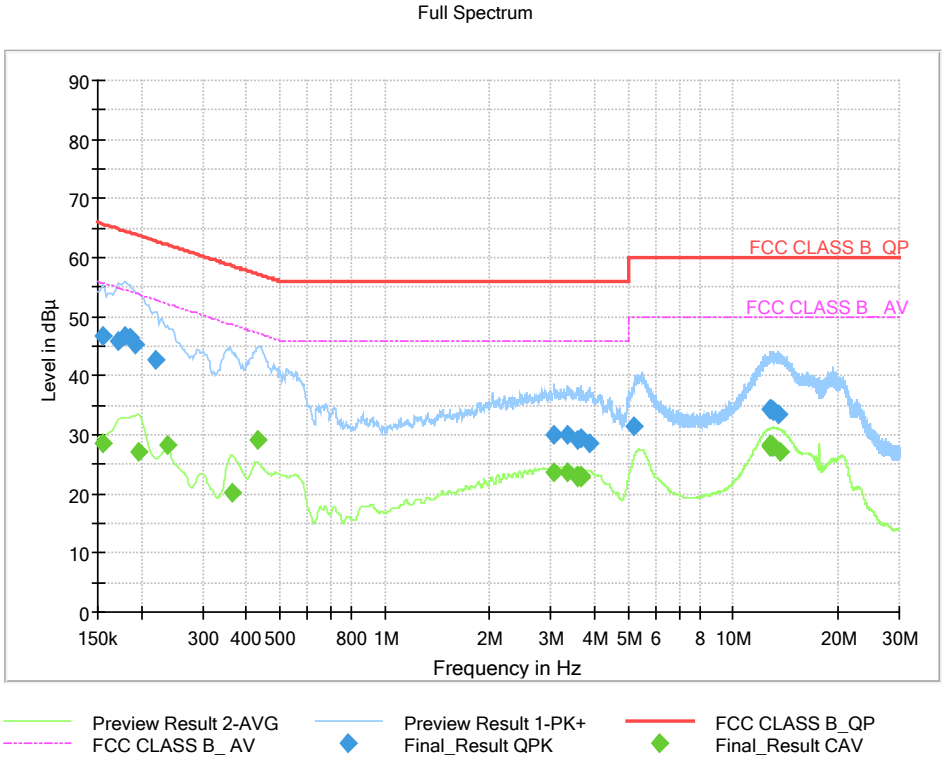
QuasiPeak Final Result

Frequency (㎒)	QuasiPeak (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1523	47.68	65.88	18.20	9.000	L1	9.6
0.1658	45.39	65.17	19.78	9.000	L1	9.6
0.1815	46.82	64.42	17.60	9.000	L1	9.6
0.1973	44.80	63.73	18.93	9.000	L1	9.6
0.2265	43.58	62.58	19.00	9.000	L1	9.6
0.2355	44.62	62.25	17.64	9.000	L1	9.6
2.7680	35.37	56.00	20.63	9.000	L1	9.8
2.8468	35.01	56.00	20.99	9.000	L1	9.8
2.8558	35.32	56.00	20.68	9.000	L1	9.8
5.1193	35.87	60.00	24.13	9.000	L1	9.9
5.1395	36.45	60.00	23.55	9.000	L1	9.9
5.1463	36.24	60.00	23.76	9.000	L1	9.9
19.9220	37.93	60.00	22.07	9.000	L1	10.4
20.2190	37.79	60.00	22.21	9.000	L1	10.4
20.2955	37.91	60.00	22.09	9.000	L1	10.4
20.5948	38.08	60.00	21.92	9.000	L1	10.4
20.7995	38.09	60.00	21.91	9.000	L1	10.4
20.9683	38.02	60.00	21.98	9.000	L1	10.4

CAverage Final Result

Frequency (㎒)	CAverage (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1545	28.97	55.75	26.78	9.000	L1	9.6
0.1815	28.95	54.42	25.46	9.000	L1	9.6
0.1883	28.87	54.11	25.24	9.000	L1	9.6
0.2333	29.86	52.33	22.47	9.000	L1	9.6
0.3030	25.09	50.16	25.07	9.000	L1	9.6
0.4335	31.18	47.19	16.00	9.000	L1	9.6
3.0065	26.47	46.00	19.53	9.000	L1	9.8
3.0133	26.57	46.00	19.43	9.000	L1	9.8
3.4925	25.97	46.00	20.03	9.000	L1	9.8
5.1283	27.85	50.00	22.15	9.000	L1	9.9
5.1530	27.95	50.00	22.05	9.000	L1	9.9
5.1665	28.10	50.00	21.90	9.000	L1	9.9
12.3193	30.23	50.00	19.77	9.000	L1	10.1
12.6793	30.35	50.00	19.65	9.000	L1	10.2
19.9198	29.27	50.00	20.73	9.000	L1	10.4
20.2213	29.87	50.00	20.13	9.000	L1	10.4
20.5925	30.21	50.00	19.79	9.000	L1	10.4
20.9660	30.14	50.00	19.86	9.000	L1	10.4

Figure 4: Conducted Emission, Video + Audio, Line (N)



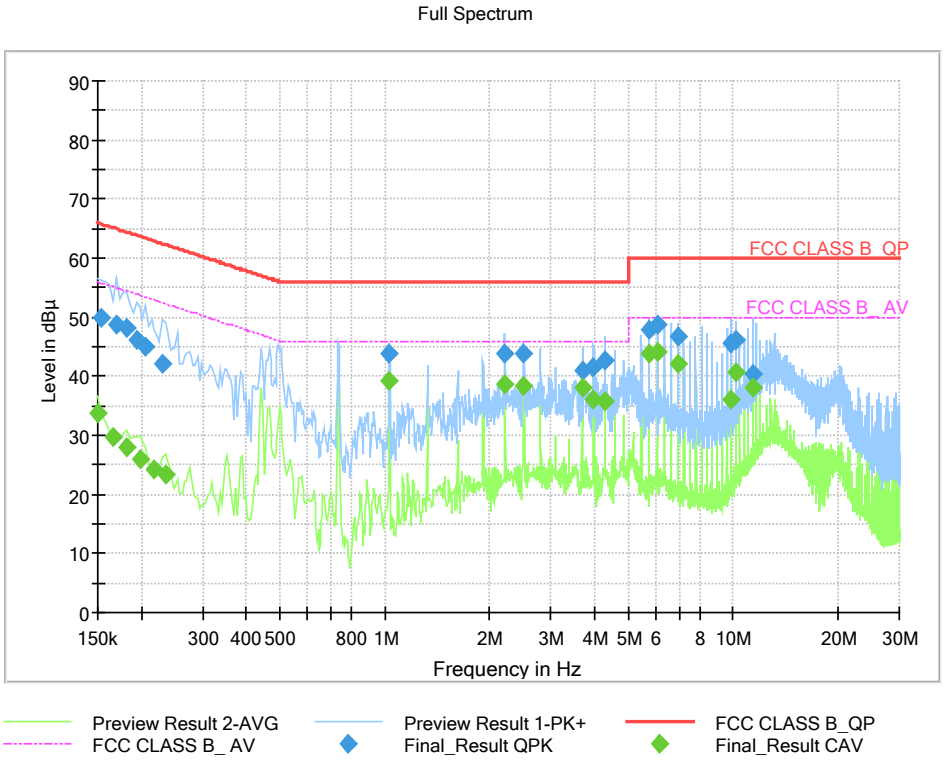
QuasiPeak Final Result

Frequency (㎒)	QuasiPeak (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1545	46.87	65.75	18.88	9.000	N	9.6
0.1725	45.99	64.84	18.85	9.000	N	9.6
0.1793	46.74	64.52	17.78	9.000	N	9.6
0.1860	46.40	64.21	17.81	9.000	N	9.6
0.1928	45.18	63.92	18.73	9.000	N	9.6
0.2198	42.76	62.83	20.07	9.000	N	9.6
3.0515	30.01	56.00	25.99	9.000	N	9.8
3.3328	30.00	56.00	26.00	9.000	N	9.8
3.5870	29.27	56.00	26.73	9.000	N	9.8
3.6455	29.43	56.00	26.57	9.000	N	9.8
3.8728	28.60	56.00	27.40	9.000	N	9.8
5.1643	31.51	60.00	28.49	9.000	N	9.9
12.7940	34.38	60.00	25.62	9.000	N	10.2
12.8188	34.45	60.00	25.55	9.000	N	10.2
12.8953	34.35	60.00	25.65	9.000	N	10.2
13.0280	34.09	60.00	25.91	9.000	N	10.2
13.0595	34.16	60.00	25.84	9.000	N	10.3
13.4623	33.51	60.00	26.49	9.000	N	10.3

CAverage Final Result

Frequency (㎒)	CAverage (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1545	28.50	55.75	27.25	9.000	N	9.6
0.1973	27.23	53.73	26.49	9.000	N	9.6
0.2378	28.37	52.17	23.81	9.000	N	9.6
0.3660	20.17	48.59	28.42	9.000	N	9.6
0.4313	29.23	47.23	18.00	9.000	N	9.6
3.0538	23.64	46.00	22.36	9.000	N	9.8
3.3328	23.72	46.00	22.28	9.000	N	9.8
3.5713	23.09	46.00	22.91	9.000	N	9.8
3.5803	22.86	46.00	23.14	9.000	N	9.8
3.6433	23.11	46.00	22.89	9.000	N	9.8
3.6748	22.65	46.00	23.35	9.000	N	9.8
12.6995	28.17	50.00	21.83	9.000	N	10.2
12.7220	28.17	50.00	21.83	9.000	N	10.2
12.8188	28.12	50.00	21.88	9.000	N	10.2
12.9065	28.11	50.00	21.89	9.000	N	10.2
12.9538	28.18	50.00	21.82	9.000	N	10.2
13.0190	28.03	50.00	21.97	9.000	N	10.2
13.6040	27.04	50.00	22.96	9.000	N	10.3

Figure 5: Conducted Emission, Wireless Charging (PHONE TO PHONE), Line (L1)



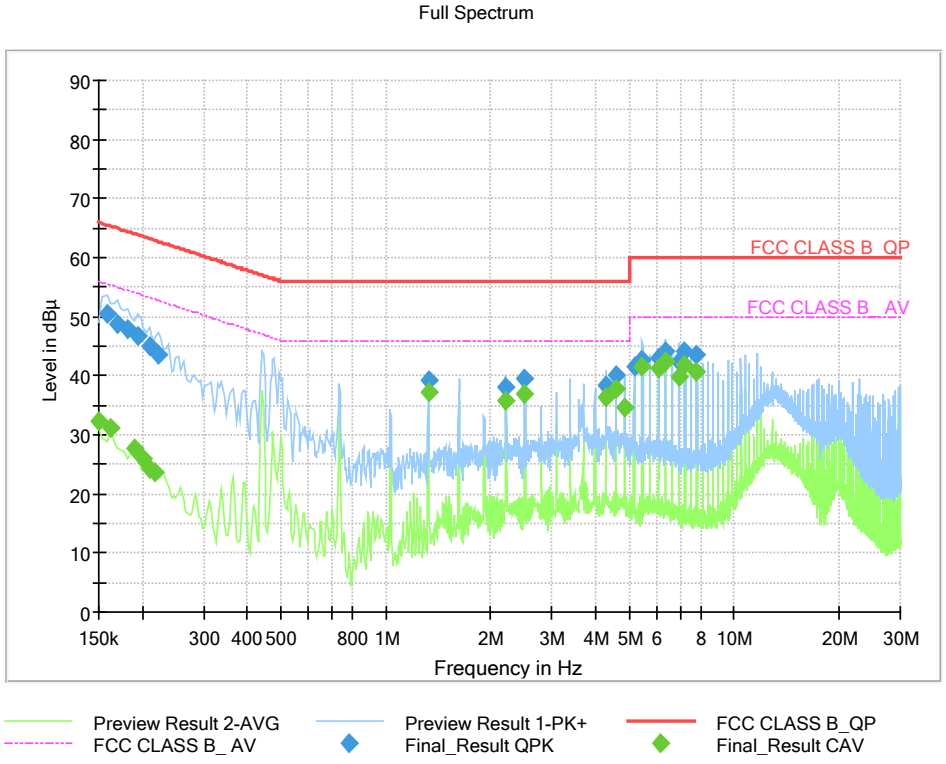
QuasiPeak Final Result

Frequency (㎒)	QuasiPeak (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1540	49.77	65.78	16.01	9.000	L1	9.6
0.1700	48.75	64.96	16.21	9.000	L1	9.6
0.1820	48.22	64.39	16.17	9.000	L1	9.6
0.1940	46.10	63.86	17.76	9.000	L1	9.6
0.2060	45.03	63.37	18.34	9.000	L1	9.6
0.2300	42.20	62.45	20.25	9.000	L1	9.6
1.0320	43.96	56.00	12.04	9.000	L1	9.7
2.2120	43.92	56.00	12.08	9.000	L1	9.7
2.5080	43.89	56.00	12.11	9.000	L1	9.8
3.6880	40.95	56.00	15.05	9.000	L1	9.8
3.9800	41.45	56.00	14.55	9.000	L1	9.8
4.2760	42.82	56.00	13.18	9.000	L1	9.8
5.7520	47.89	60.00	12.11	9.000	L1	9.9
6.0480	48.68	60.00	11.32	9.000	L1	9.9
6.9320	46.74	60.00	13.26	9.000	L1	9.9
9.8800	45.62	60.00	14.38	9.000	L1	10.1
10.1760	46.11	60.00	13.89	9.000	L1	10.1
11.3560	40.48	60.00	19.52	9.000	L1	10.1

CAverage Final Result

Frequency (㎒)	CAverage (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1500	33.66	56.00	22.34	9.000	L1	9.7
0.1660	29.83	55.16	25.32	9.000	L1	9.6
0.1820	27.88	54.39	26.51	9.000	L1	9.6
0.1980	25.89	53.69	27.81	9.000	L1	9.6
0.2180	24.36	52.90	28.53	9.000	L1	9.6
0.2340	23.49	52.31	28.82	9.000	L1	9.6
1.0320	39.20	46.00	6.80	9.000	L1	9.7
2.2120	38.67	46.00	7.33	9.000	L1	9.7
2.5080	38.40	46.00	7.60	9.000	L1	9.8
3.6880	38.03	46.00	7.97	9.000	L1	9.8
3.9800	36.01	46.00	9.99	9.000	L1	9.8
4.2760	35.82	46.00	10.18	9.000	L1	9.8
5.7520	43.78	50.00	6.22	9.000	L1	9.9
6.0480	44.16	50.00	5.84	9.000	L1	9.9
6.9320	42.12	50.00	7.88	9.000	L1	9.9
9.8800	36.08	50.00	13.92	9.000	L1	10.1
10.1760	40.60	50.00	9.40	9.000	L1	10.1
11.3560	38.16	50.00	11.84	9.000	L1	10.1

Figure 6: Conducted Emission, Wireless Charging (PHONE TO PHONE), Line (N)



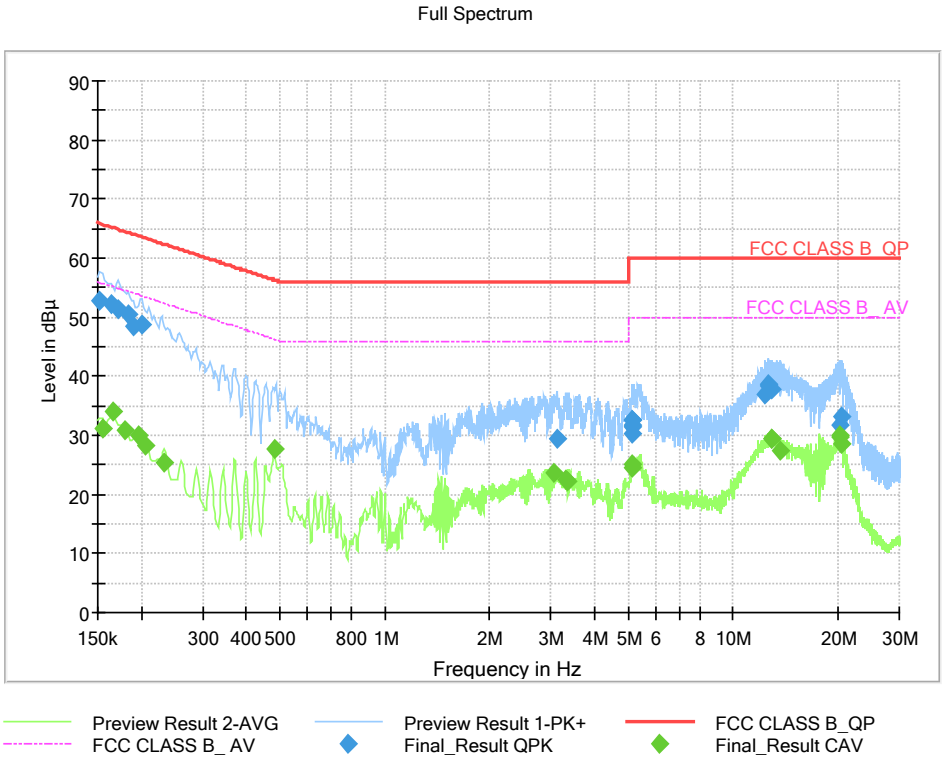
QuasiPeak Final Result

Frequency (㎒)	QuasiPeak (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1580	50.34	65.57	15.23	9.000	N	9.6
0.1700	48.66	64.96	16.30	9.000	N	9.6
0.1820	47.99	64.39	16.40	9.000	N	9.6
0.1940	46.60	63.86	17.27	9.000	N	9.6
0.2100	45.06	63.21	18.15	9.000	N	9.6
0.2220	43.54	62.74	19.21	9.000	N	9.6
1.3280	39.14	56.00	16.86	9.000	N	9.7
2.2120	38.03	56.00	17.97	9.000	N	9.7
2.5080	39.39	56.00	16.61	9.000	N	9.8
4.2800	38.46	56.00	17.54	9.000	N	9.8
4.5720	40.10	56.00	15.90	9.000	N	9.9
5.1640	41.52	60.00	18.48	9.000	N	9.9
5.4560	42.83	60.00	17.17	9.000	N	9.9
6.0480	42.97	60.00	17.03	9.000	N	9.9
6.3440	44.14	60.00	15.86	9.000	N	9.9
6.9320	42.31	60.00	17.69	9.000	N	10.0
7.2280	44.05	60.00	15.95	9.000	N	10.0
7.8200	43.62	60.00	16.38	9.000	N	10.0

CAverage Final Result

Frequency (㎒)	CAverage (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1500	32.38	56.00	23.62	9.000	N	9.6
0.1620	31.02	55.36	24.34	9.000	N	9.6
0.1900	27.60	54.04	26.44	9.000	N	9.6
0.2020	25.93	53.53	27.60	9.000	N	9.6
0.2100	24.31	53.21	28.90	9.000	N	9.6
0.2180	23.72	52.90	29.17	9.000	N	9.6
1.3280	37.08	46.00	8.92	9.000	N	9.7
2.2120	35.90	46.00	10.10	9.000	N	9.7
2.5080	36.99	46.00	9.01	9.000	N	9.8
4.2800	36.25	46.00	9.75	9.000	N	9.8
4.5720	37.70	46.00	8.30	9.000	N	9.9
4.8680	34.69	46.00	11.31	9.000	N	9.9
5.4560	41.43	50.00	8.57	9.000	N	9.9
6.0480	41.27	50.00	8.73	9.000	N	9.9
6.3440	42.40	50.00	7.60	9.000	N	9.9
6.9320	39.82	50.00	10.18	9.000	N	10.0
7.2280	41.78	50.00	8.22	9.000	N	10.0
7.8200	40.77	50.00	9.23	9.000	N	10.0

Figure 7: Conducted Emission, Wireless Charging (PHONE TO WATCH), Line (L1)



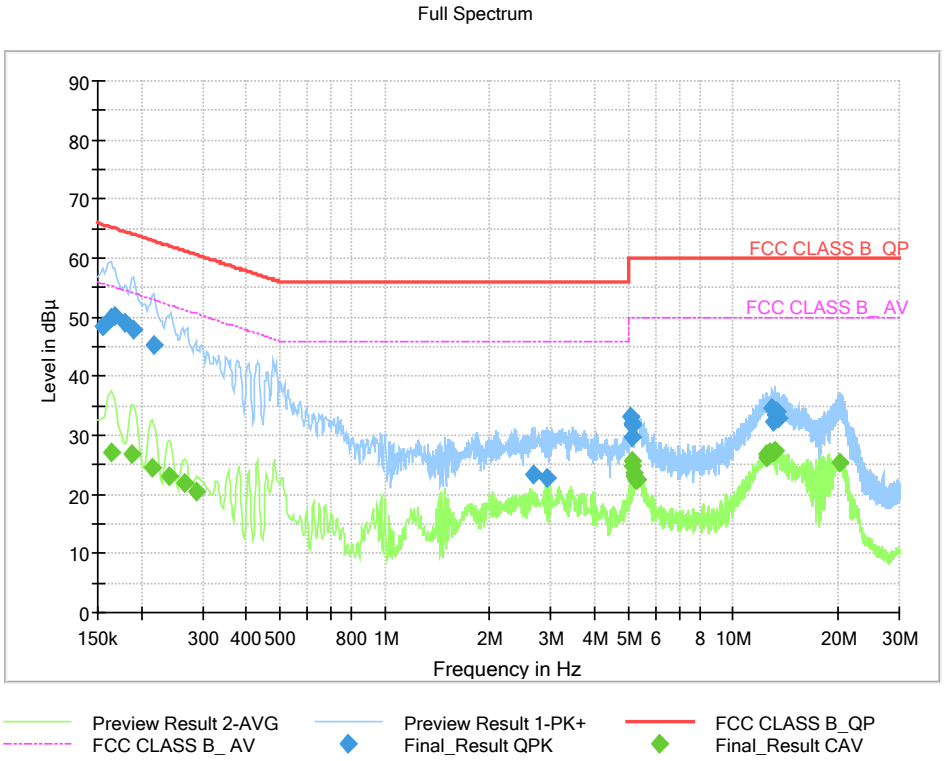
QuasiPeak Final Result

Frequency (㎒)	QuasiPeak (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1523	52.79	65.88	13.09	9.000	L1	9.6
0.1635	52.26	65.28	13.02	9.000	L1	9.6
0.1725	51.46	64.84	13.38	9.000	L1	9.6
0.1838	50.48	64.31	13.83	9.000	L1	9.6
0.1905	48.35	64.02	15.66	9.000	L1	9.6
0.2018	48.81	63.54	14.73	9.000	L1	9.6
3.1100	29.49	56.00	26.51	9.000	L1	9.8
5.1103	31.44	60.00	28.56	9.000	L1	9.9
5.1283	32.52	60.00	27.48	9.000	L1	9.9
5.1395	31.85	60.00	28.15	9.000	L1	9.9
5.1485	32.47	60.00	27.53	9.000	L1	9.9
5.1530	30.18	60.00	29.82	9.000	L1	9.9
12.3710	36.89	60.00	23.11	9.000	L1	10.1
12.5983	38.50	60.00	21.50	9.000	L1	10.2
12.6253	38.70	60.00	21.30	9.000	L1	10.2
12.8525	37.70	60.00	22.30	9.000	L1	10.2
20.3113	31.82	60.00	28.18	9.000	L1	10.4
20.5183	33.22	60.00	26.78	9.000	L1	10.4

CAverage Final Result

Frequency (㎒)	CAverage (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1545	31.18	55.75	24.57	9.000	L1	9.6
0.1658	34.13	55.17	21.04	9.000	L1	9.6
0.1793	30.73	54.52	23.79	9.000	L1	9.6
0.1973	30.10	53.73	23.62	9.000	L1	9.6
0.2063	28.19	53.36	25.16	9.000	L1	9.6
0.2333	25.51	52.33	26.83	9.000	L1	9.6
0.4808	27.75	46.33	18.57	9.000	L1	9.6
3.0560	23.61	46.00	22.39	9.000	L1	9.8
3.3170	22.41	46.00	23.59	9.000	L1	9.8
3.3463	22.29	46.00	23.71	9.000	L1	9.8
5.1283	25.20	50.00	24.80	9.000	L1	9.9
5.1553	24.62	50.00	25.38	9.000	L1	9.9
12.8548	29.35	50.00	20.65	9.000	L1	10.2
12.8795	29.44	50.00	20.56	9.000	L1	10.2
13.6828	27.55	50.00	22.45	9.000	L1	10.2
20.2865	29.76	50.00	20.24	9.000	L1	10.4
20.3113	30.13	50.00	19.87	9.000	L1	10.4
20.5453	28.56	50.00	21.44	9.000	L1	10.4

Figure 8: Conducted Emission, Wireless Charging (PHONE TO WATCH), Line (N)



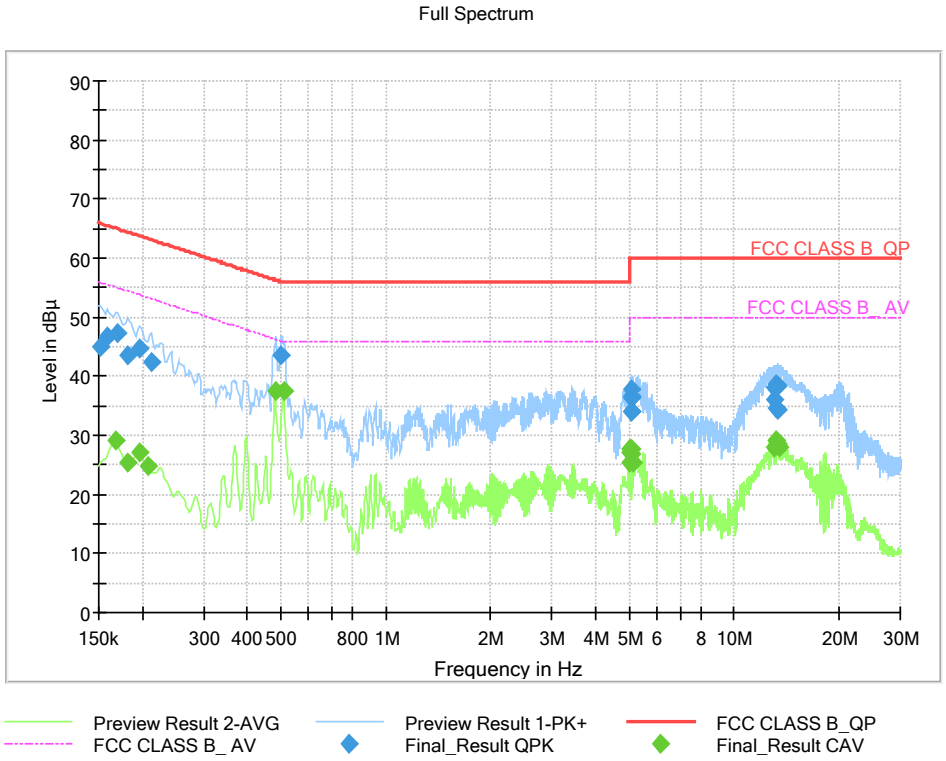
QuasiPeak Final Result

Frequency (㎒)	QuasiPeak (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1545	48.40	65.75	17.36	9.000	N	9.6
0.1635	49.78	65.28	15.51	9.000	N	9.6
0.1680	50.09	65.06	14.96	9.000	N	9.6
0.1793	48.99	64.52	15.53	9.000	N	9.6
0.1905	47.75	64.02	16.27	9.000	N	9.6
0.2175	45.24	62.91	17.68	9.000	N	9.6
2.6600	23.39	56.00	32.61	9.000	N	9.8
2.9300	22.93	56.00	33.07	9.000	N	9.8
5.0968	33.10	60.00	26.90	9.000	N	9.9
5.1305	31.80	60.00	28.20	9.000	N	9.9
5.1373	32.11	60.00	27.89	9.000	N	9.9
5.1553	29.71	60.00	30.29	9.000	N	9.9
12.9763	34.54	60.00	25.46	9.000	N	10.2
13.0010	32.18	60.00	27.82	9.000	N	10.2
13.2260	33.35	60.00	26.65	9.000	N	10.3
13.2508	33.90	60.00	26.10	9.000	N	10.3
13.2778	34.00	60.00	26.00	9.000	N	10.3
13.5028	32.85	60.00	27.15	9.000	N	10.3

CAverage Final Result

Frequency (㎒)	CAverage (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1635	27.24	55.28	28.04	9.000	N	9.6
0.1883	26.89	54.11	27.22	9.000	N	9.6
0.2153	24.61	53.00	28.39	9.000	N	9.6
0.2400	23.14	52.10	28.95	9.000	N	9.6
0.2670	21.81	51.21	29.41	9.000	N	9.6
0.2895	20.43	50.54	30.11	9.000	N	9.6
5.1283	24.90	50.00	25.10	9.000	N	9.9
5.1575	25.53	50.00	24.47	9.000	N	9.9
5.1845	23.58	50.00	26.42	9.000	N	9.9
5.2160	23.17	50.00	26.83	9.000	N	9.9
5.2430	22.50	50.00	27.50	9.000	N	9.9
5.2768	22.52	50.00	27.48	9.000	N	9.9
12.4228	26.36	50.00	23.64	9.000	N	10.2
12.4723	26.92	50.00	23.08	9.000	N	10.2
12.7063	26.98	50.00	23.02	9.000	N	10.2
13.0348	27.06	50.00	22.94	9.000	N	10.2
13.2260	27.44	50.00	22.56	9.000	N	10.3
20.1920	25.48	50.00	24.52	9.000	N	10.6

Figure 9: Conducted Emission, LTE B14 Middle ch Idle + Front Camera, Line (L1)



HCT CO.,LTD.

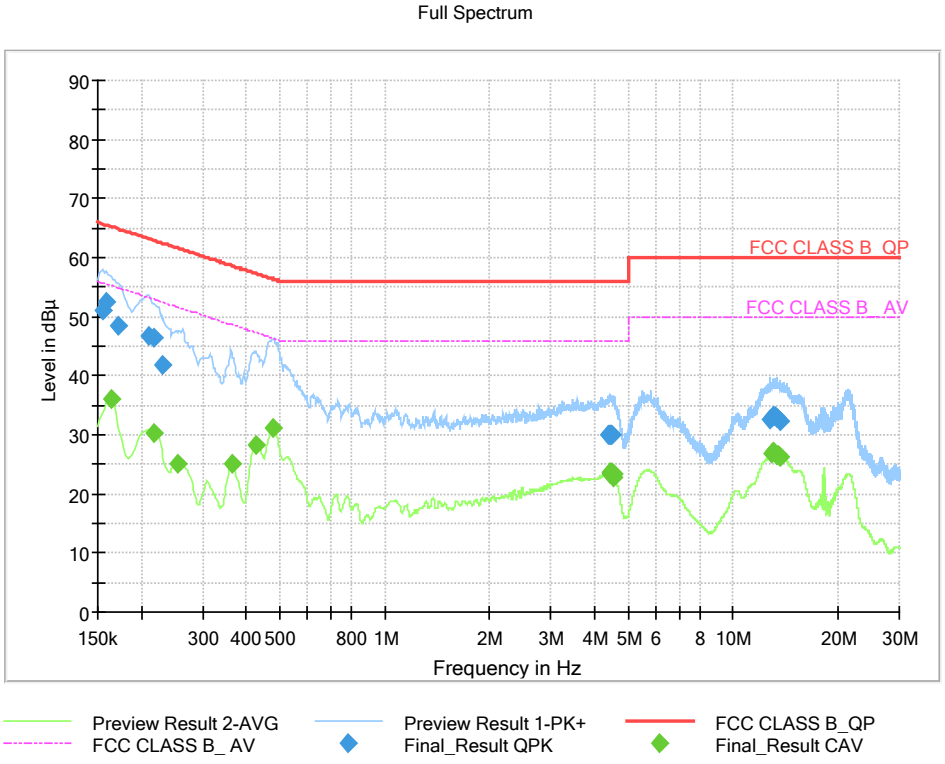
QuasiPeak Final Result

Frequency (㎒)	QuasiPeak (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1523	45.07	65.88	20.81	9.000	L1	9.6
0.1590	46.64	65.52	18.88	9.000	L1	9.6
0.1703	47.44	64.95	17.51	9.000	L1	9.6
0.1815	43.65	64.42	20.76	9.000	L1	9.6
0.1973	44.64	63.73	19.09	9.000	L1	9.6
0.2130	42.46	63.09	20.63	9.000	L1	9.6
0.5023	43.65	56.00	12.35	9.000	L1	9.6
5.0608	37.77	60.00	22.23	9.000	L1	9.9
5.0653	36.40	60.00	23.60	9.000	L1	9.9
5.0698	34.16	60.00	25.84	9.000	L1	9.9
5.0900	36.75	60.00	23.25	9.000	L1	9.9
5.0990	34.12	60.00	25.88	9.000	L1	9.9
12.9965	38.18	60.00	21.82	9.000	L1	10.2
13.0370	35.92	60.00	24.08	9.000	L1	10.2
13.2508	38.53	60.00	21.47	9.000	L1	10.2
13.2553	34.67	60.00	25.33	9.000	L1	10.2
13.2778	38.25	60.00	21.75	9.000	L1	10.2
13.3385	34.44	60.00	25.56	9.000	L1	10.2

CAverage Final Result

Frequency (㎒)	CAverage (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1680	29.23	55.06	25.83	9.000	L1	9.6
0.1815	25.51	54.42	28.91	9.000	L1	9.6
0.1973	27.14	53.73	26.59	9.000	L1	9.6
0.2085	24.86	53.27	28.41	9.000	L1	9.6
0.4808	37.60	46.33	8.73	9.000	L1	9.6
0.5090	37.63	46.00	8.37	9.000	L1	9.6
5.0000	25.33	46.00	20.67	9.000	L1	9.9
5.0045	27.10	50.00	22.90	9.000	L1	9.9
5.0315	27.67	50.00	22.33	9.000	L1	9.9
5.0608	27.60	50.00	22.40	9.000	L1	9.9
5.0900	26.71	50.00	23.29	9.000	L1	9.9
5.1193	25.26	50.00	24.74	9.000	L1	9.9
12.9988	28.11	50.00	21.89	9.000	L1	10.2
13.0258	28.01	50.00	21.99	9.000	L1	10.2
13.2215	29.08	50.00	20.92	9.000	L1	10.2
13.2485	29.05	50.00	20.95	9.000	L1	10.2
13.2755	28.69	50.00	21.31	9.000	L1	10.2
13.5590	27.92	50.00	22.08	9.000	L1	10.2

Figure 10: Conducted Emission, LTE B14 Middle ch Idle + Front Camera, Line (N)



HCT CO.,LTD.

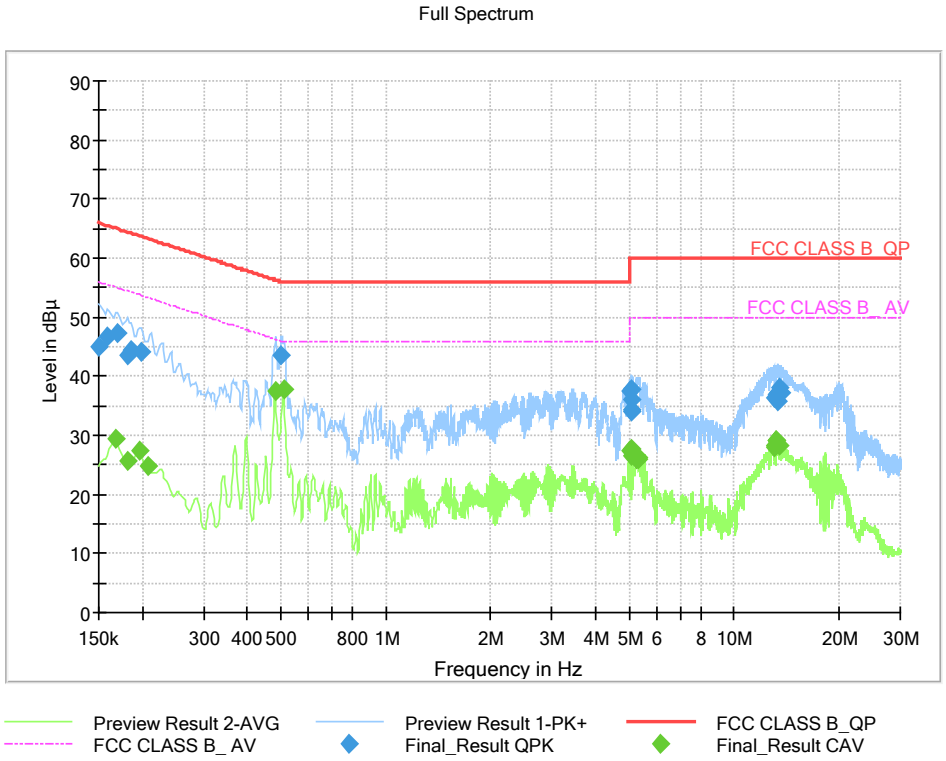
QuasiPeak Final Result

Frequency (㎒)	QuasiPeak (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1545	51.16	65.75	14.59	9.000	N	9.6
0.1590	52.44	65.52	13.07	9.000	N	9.6
0.1725	48.38	64.84	16.46	9.000	N	9.6
0.2108	46.60	63.18	16.58	9.000	N	9.6
0.2175	46.35	62.91	16.57	9.000	N	9.6
0.2310	41.77	62.41	20.64	9.000	N	9.6
4.3700	30.02	56.00	25.98	9.000	N	9.9
4.4240	30.07	56.00	25.93	9.000	N	9.9
4.4308	29.87	56.00	26.13	9.000	N	9.9
4.4555	30.00	56.00	26.00	9.000	N	9.9
4.4825	30.09	56.00	25.91	9.000	N	9.9
4.4870	30.05	56.00	25.95	9.000	N	9.9
12.7985	32.61	60.00	27.39	9.000	N	10.2
13.0460	33.06	60.00	26.94	9.000	N	10.3
13.0640	33.09	60.00	26.91	9.000	N	10.3
13.2463	33.17	60.00	26.83	9.000	N	10.3
13.3835	32.87	60.00	27.13	9.000	N	10.3
13.5838	32.44	60.00	27.56	9.000	N	10.3

CAverage Final Result

Frequency (㎒)	CAverage (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1635	36.02	55.28	19.26	9.000	N	9.6
0.2175	30.39	52.91	22.52	9.000	N	9.6
0.2558	25.09	51.57	26.47	9.000	N	9.6
0.3638	25.17	48.64	23.47	9.000	N	9.6
0.4268	28.23	47.32	19.08	9.000	N	9.6
0.4763	31.20	46.40	15.21	9.000	N	9.6
4.4398	23.54	46.00	22.46	9.000	N	9.9
4.4465	23.44	46.00	22.56	9.000	N	9.9
4.4870	23.52	46.00	22.48	9.000	N	9.9
4.5118	23.42	46.00	22.58	9.000	N	9.9
4.5253	23.28	46.00	22.72	9.000	N	9.9
4.5568	22.75	46.00	23.25	9.000	N	9.9
12.9088	26.94	50.00	23.06	9.000	N	10.2
13.0640	27.06	50.00	22.94	9.000	N	10.3
13.0798	27.05	50.00	22.95	9.000	N	10.3
13.3970	26.60	50.00	23.40	9.000	N	10.3
13.4960	26.49	50.00	23.51	9.000	N	10.3
13.6940	26.21	50.00	23.79	9.000	N	10.3

Figure 11: Conducted Emission, LTE B29 Middle ch Idle + Rear Camera, Line (L1)



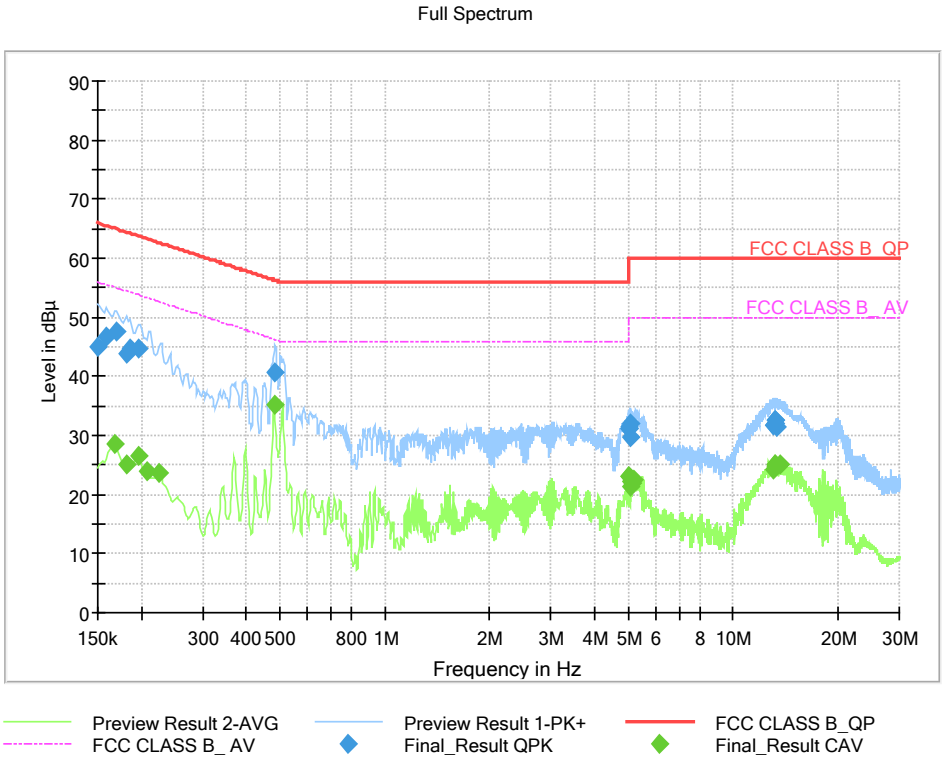
QuasiPeak Final Result

Frequency (㎒)	QuasiPeak (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1500	44.87	66.00	21.13	9.000	L1	9.7
0.1590	46.73	65.52	18.78	9.000	L1	9.6
0.1703	47.37	64.95	17.58	9.000	L1	9.6
0.1815	43.66	64.42	20.76	9.000	L1	9.6
0.1860	44.43	64.21	19.79	9.000	L1	9.6
0.1995	44.24	63.63	19.39	9.000	L1	9.6
0.5023	43.68	56.00	12.32	9.000	L1	9.6
5.0315	37.47	60.00	22.53	9.000	L1	9.9
5.0608	37.75	60.00	22.25	9.000	L1	9.9
5.0698	34.18	60.00	25.82	9.000	L1	9.9
5.0945	36.12	60.00	23.88	9.000	L1	9.9
5.0990	34.22	60.00	25.78	9.000	L1	9.9
13.0685	36.22	60.00	23.78	9.000	L1	10.2
13.1968	36.78	60.00	23.22	9.000	L1	10.2
13.2800	37.08	60.00	22.92	9.000	L1	10.2
13.3093	35.79	60.00	24.21	9.000	L1	10.2
13.5298	38.08	60.00	21.92	9.000	L1	10.2
13.5815	37.11	60.00	22.89	9.000	L1	10.2

CAverage Final Result

Frequency (㎒)	CAverage (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1680	29.31	55.06	25.75	9.000	L1	9.6
0.1815	25.62	54.42	28.80	9.000	L1	9.6
0.1973	27.31	53.73	26.42	9.000	L1	9.6
0.2085	24.78	53.27	28.49	9.000	L1	9.6
0.4808	37.61	46.33	8.72	9.000	L1	9.6
0.5090	37.68	46.00	8.32	9.000	L1	9.6
5.0338	27.54	50.00	22.46	9.000	L1	9.9
5.0608	27.59	50.00	22.41	9.000	L1	9.9
5.0900	26.67	50.00	23.33	9.000	L1	9.9
5.2588	26.09	50.00	23.91	9.000	L1	9.9
5.2903	26.16	50.00	23.84	9.000	L1	9.9
5.3195	26.04	50.00	23.96	9.000	L1	9.9
12.9988	28.13	50.00	21.87	9.000	L1	10.2
13.0280	27.91	50.00	22.09	9.000	L1	10.2
13.1945	29.22	50.00	20.78	9.000	L1	10.2
13.2215	29.19	50.00	20.81	9.000	L1	10.2
13.2485	29.06	50.00	20.94	9.000	L1	10.2
13.5320	28.18	50.00	21.82	9.000	L1	10.2

Figure 12: Conducted Emission, LTE B29 Middle ch Idle + Rear Camera, Line (N)



QuasiPeak Final Result

Frequency (MHz)	QuasiPeak (dBμV)	Limit (dBμV)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.1500	44.97	66.00	21.03	9.000	N	9.6
0.1590	46.82	65.52	18.69	9.000	N	9.6
0.1703	47.72	64.95	17.22	9.000	N	9.6
0.1815	43.98	64.42	20.44	9.000	N	9.6
0.1860	44.65	64.21	19.57	9.000	N	9.6
0.1973	44.71	63.73	19.01	9.000	N	9.6
0.4853	40.73	56.25	15.52	9.000	N	9.6
5.0000	31.22	56.00	24.78	9.000	N	9.9
5.0270	31.22	60.00	28.78	9.000	N	9.9
5.0338	31.49	60.00	28.51	9.000	N	9.9
5.0630	31.94	60.00	28.06	9.000	N	9.9
5.0990	29.61	60.00	30.39	9.000	N	9.9
13.0708	31.64	60.00	28.36	9.000	N	10.3
13.1023	31.70	60.00	28.30	9.000	N	10.3
13.1315	32.10	60.00	27.90	9.000	N	10.3
13.1608	32.55	60.00	27.45	9.000	N	10.3
13.1968	32.55	60.00	27.45	9.000	N	10.3
13.3880	31.58	60.00	28.42	9.000	N	10.3

CAverage Final Result

Frequency (MHz)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.1680	28.57	55.06	26.49	9.000	N	9.6
0.1815	25.12	54.42	29.29	9.000	N	9.6
0.1973	26.40	53.73	27.33	9.000	N	9.6
0.2085	24.03	53.27	29.23	9.000	N	9.6
0.2243	23.54	52.66	29.12	9.000	N	9.6
0.4808	35.32	46.33	11.01	9.000	N	9.6
5.0000	23.01	46.00	22.99	9.000	N	9.9
5.0293	22.93	50.00	27.07	9.000	N	9.9
5.0585	22.18	50.00	27.82	9.000	N	9.9
5.0945	21.37	50.00	28.63	9.000	N	9.9
5.1305	21.91	50.00	28.09	9.000	N	9.9
5.1598	22.38	50.00	27.62	9.000	N	9.9
13.1023	24.36	50.00	25.64	9.000	N	10.3
13.1315	24.80	50.00	25.20	9.000	N	10.3
13.1653	24.95	50.00	25.05	9.000	N	10.3
13.1945	25.10	50.00	24.90	9.000	N	10.3
13.2215	25.12	50.00	24.88	9.000	N	10.3
13.6940	25.21	50.00	24.79	9.000	N	10.3

5.2 Radiated Emission

5.2.1 For Measurement Below 1 ㎓

The test results of radiated emission provide the following information:

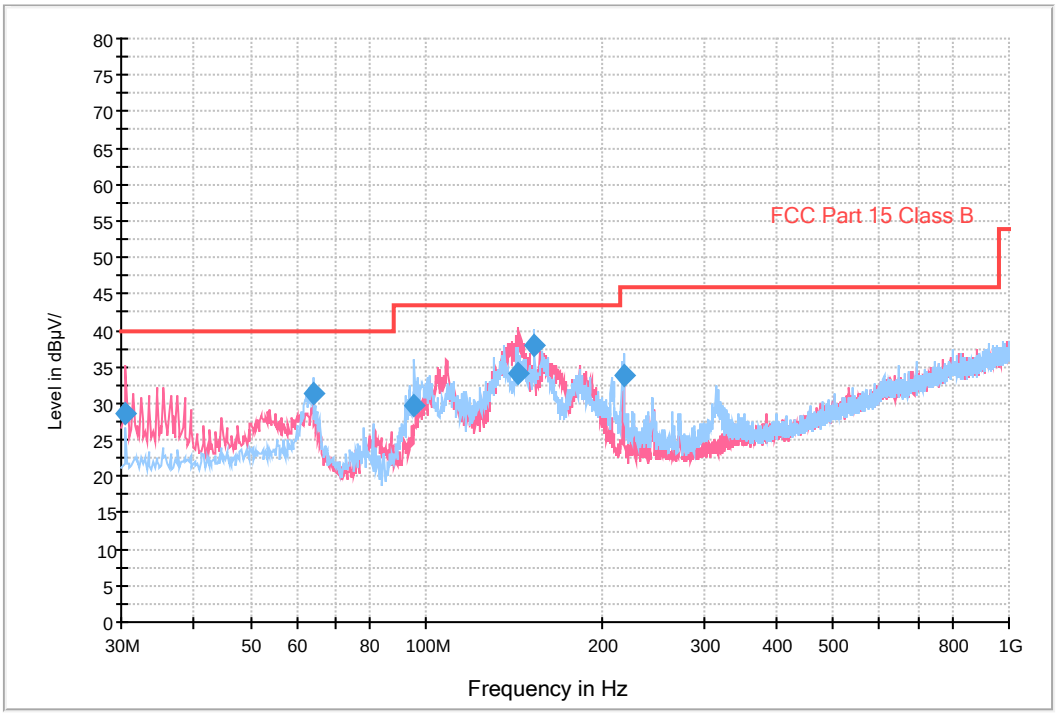
Used Test Standard	47 CFR PART 15 Subpart B Class B ANSI C63.4-2014
Frequency Range	30 ㎒ to 1 000 ㎒
Detector	Quasi-Peak
Bandwidth	120 kHz (6 ㏈)
Worst Case of Operating Mode	[EUT+Notebook PC] Data Communication (Internal) [EUT + TA] Video + Audio Wireless Charging (PHONE TO PHONE) Wireless Charging (PHONE TO WATCH) LTE B26+B5+5G NR n5 Middle ch Idle LTE B12+B13 Middle ch Idle LTE B14 Middle ch Idle + Front Camera LTE B29 Middle ch Idle + Rear Camera LTE B71+5G NR n71 Middle ch Idle [EUT + Earphone] Video + Audio LTE B14 Middle ch Idle + Front Camera
Measurement Distance	3 m
Test Site	3 m Semi Anechoic Chamber #1
Temperature	22.4 – 24.2 °C
Relative Humidity	43.9 – 46.1 %
Test Date	May 13, 2021 – May 22, 2021

- Calculation Formula:

1. POL. H = Horizontal, POL. V = Vertical
2. QuasiPeak = Reading (Receiver Reading) + Corr.
3. Corr. (Correction Factor) = Antenna Factor + Cable Loss
4. Margin = Limit - QuasiPeak

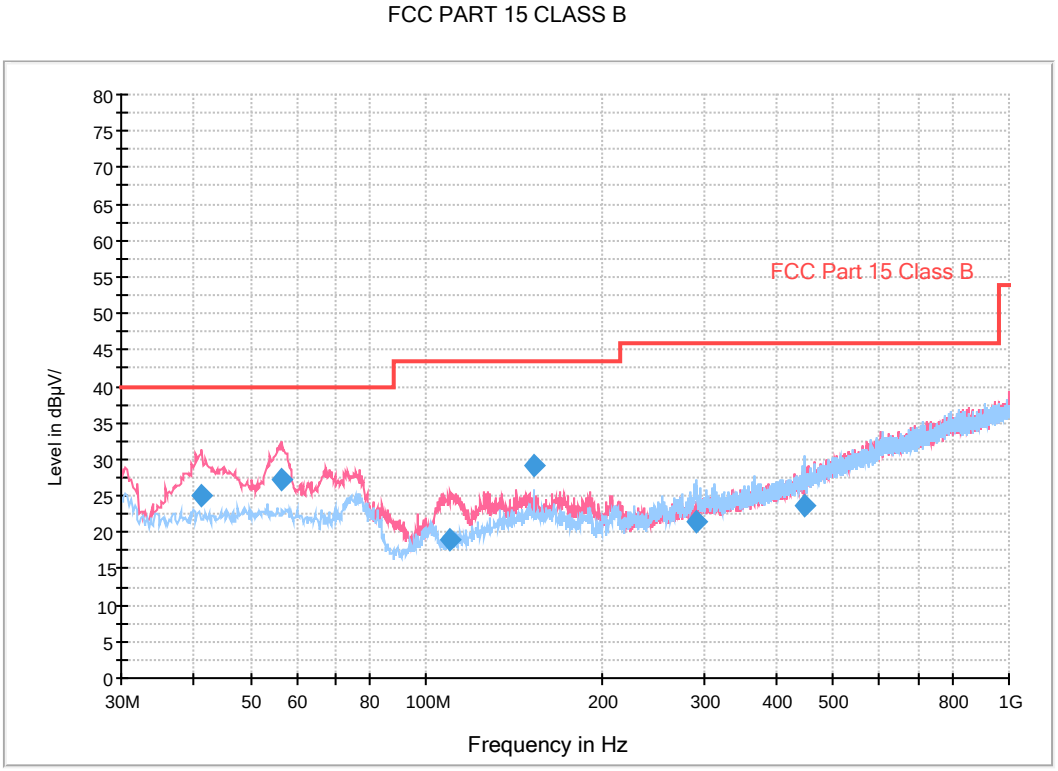
Figure 13: Radiated Emission (30 ㎒ to 1 ㎓), [EUT+Notebook PC] Data Communication (Internal)

FCC PART 15 CLASS B



Frequency (㎒)	Quasi Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
30.5265	28.5	100.0	V	258.0	18.5	11.5	40.0
64.0238	31.5	325.0	H	190.0	19.0	8.5	40.0
95.5883	29.7	325.0	H	288.0	14.7	13.8	43.5
143.6446	34.2	100.0	V	263.0	19.3	9.3	43.5
153.6138	37.9	200.0	H	55.0	19.5	5.6	43.5
218.5941	33.9	117.9	H	317.0	17.5	12.1	46.0

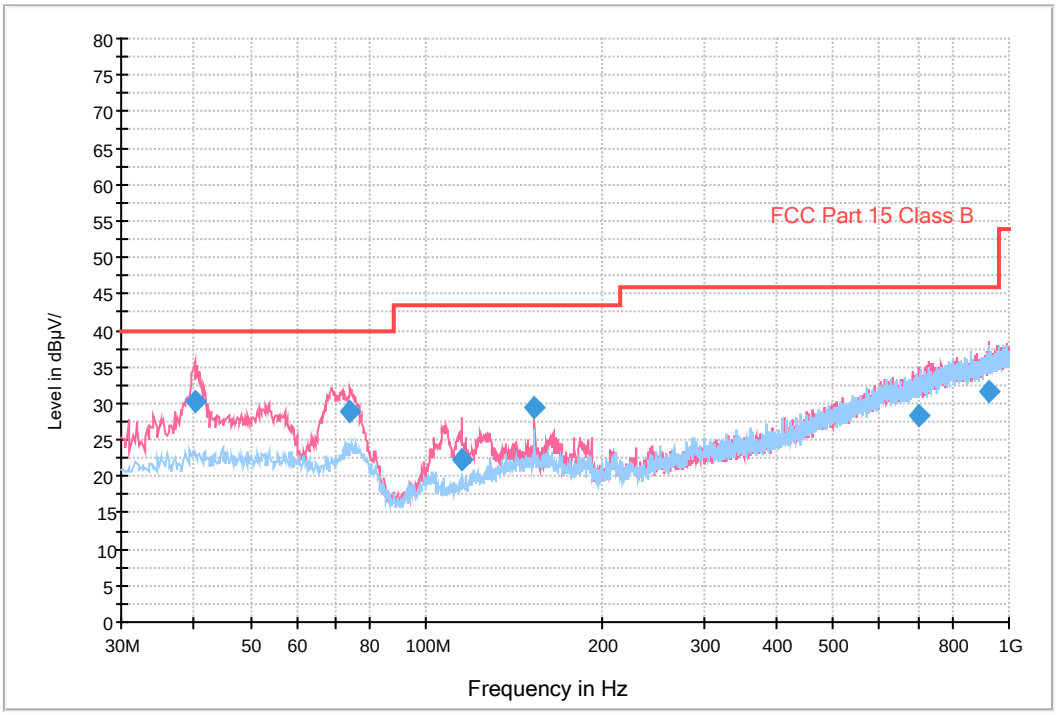
Figure 14: Radiated Emission (30 ㎒ to 1 ㎓), [EUT + TA] Video + Audio



Frequency (㎒)	Quasi Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
41.1594	24.9	100.0	V	68.0	19.4	15.1	40.0
56.6321	27.2	100.0	V	5.0	19.7	12.8	40.0
110.1142	19.0	125.0	V	132.0	16.1	24.5	43.5
153.5294	29.1	125.0	V	115.0	19.5	14.4	43.5
290.7454	21.5	100.0	H	50.0	20.2	24.5	46.0
445.3242	23.6	325.0	H	77.0	24.0	22.4	46.0

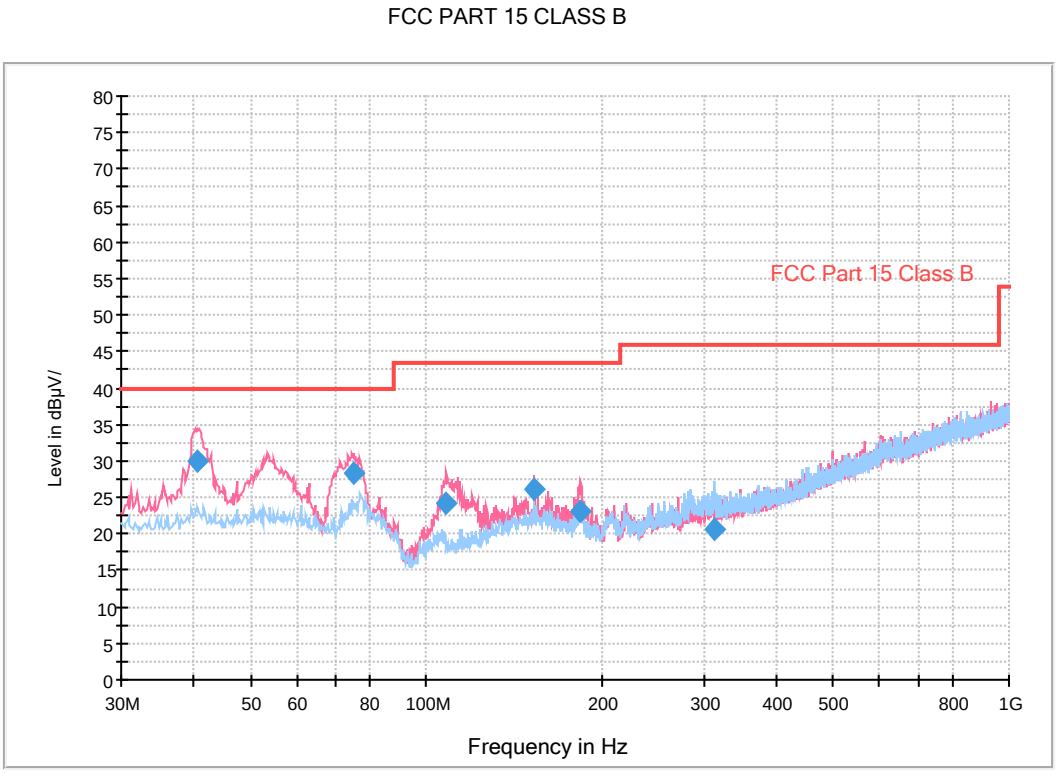
Figure 15: Radiated Emission (30 ㎒ to 1 ㎓), [EUT + TA] Wireless Charging (PHONE TO PHONE)

FCC PART 15 CLASS B



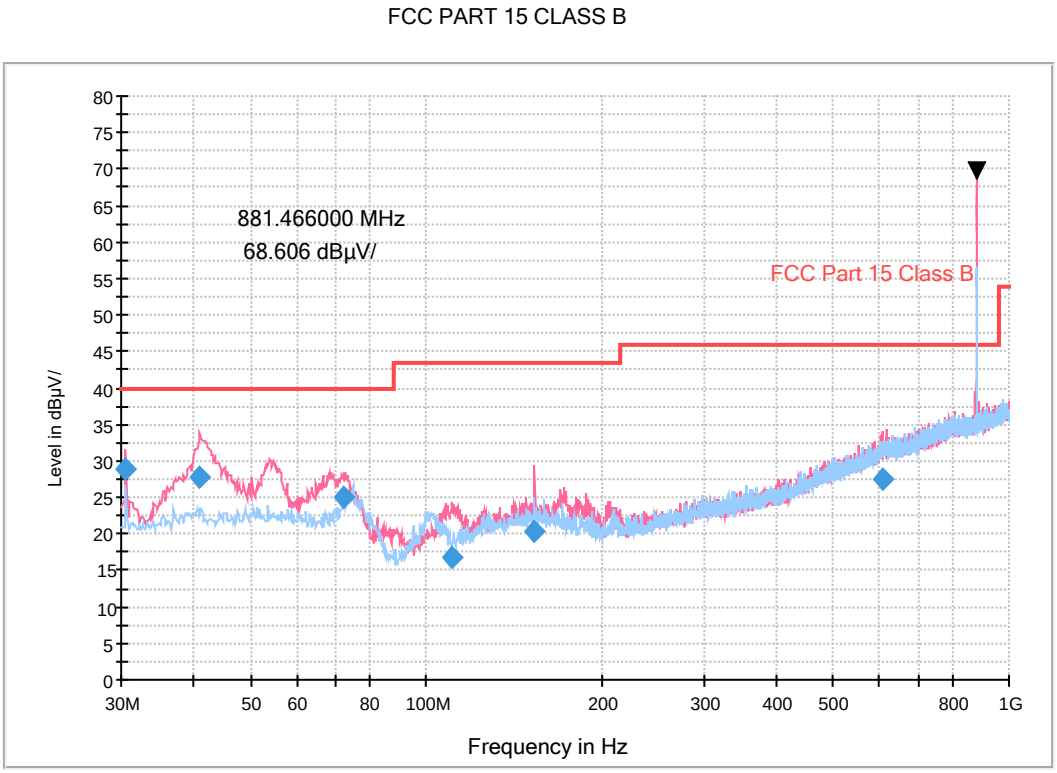
Frequency (㎒)	Quasi Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
40.0558	30.3	100.0	V	200.0	19.3	9.7	40.0
74.1849	28.8	100.0	V	218.0	17.1	11.2	40.0
115.1175	22.2	125.1	V	116.0	16.6	21.3	43.5
153.6369	29.4	117.7	V	74.0	19.5	14.1	43.5
702.4157	28.4	225.1	V	165.0	28.7	17.6	46.0
923.6790	31.6	193.7	V	25.0	31.7	14.4	46.0

Figure 16: Radiated Emission (30 ㎒ to 1 ㎓), [EUT + TA] Wireless Charging (PHONE TO WATCH)



Frequency (㎒)	Quasi Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
40.4271	30.0	100.0	V	248.0	19.4	10.0	40.0
75.0881	28.4	100.0	V	273.0	16.9	11.6	40.0
108.2519	24.3	100.0	V	136.0	15.9	19.2	43.5
153.7043	26.0	100.0	V	149.0	19.5	17.5	43.5
184.5196	23.1	100.0	V	130.0	18.0	20.4	43.5
311.7140	20.7	100.0	H	59.0	20.8	25.3	46.0

Figure 17: Radiated Emission (30 ㎒ to 1 ㎓), [EUT + TA] LTE B26+B5+5G NR n5 Middle ch Idle

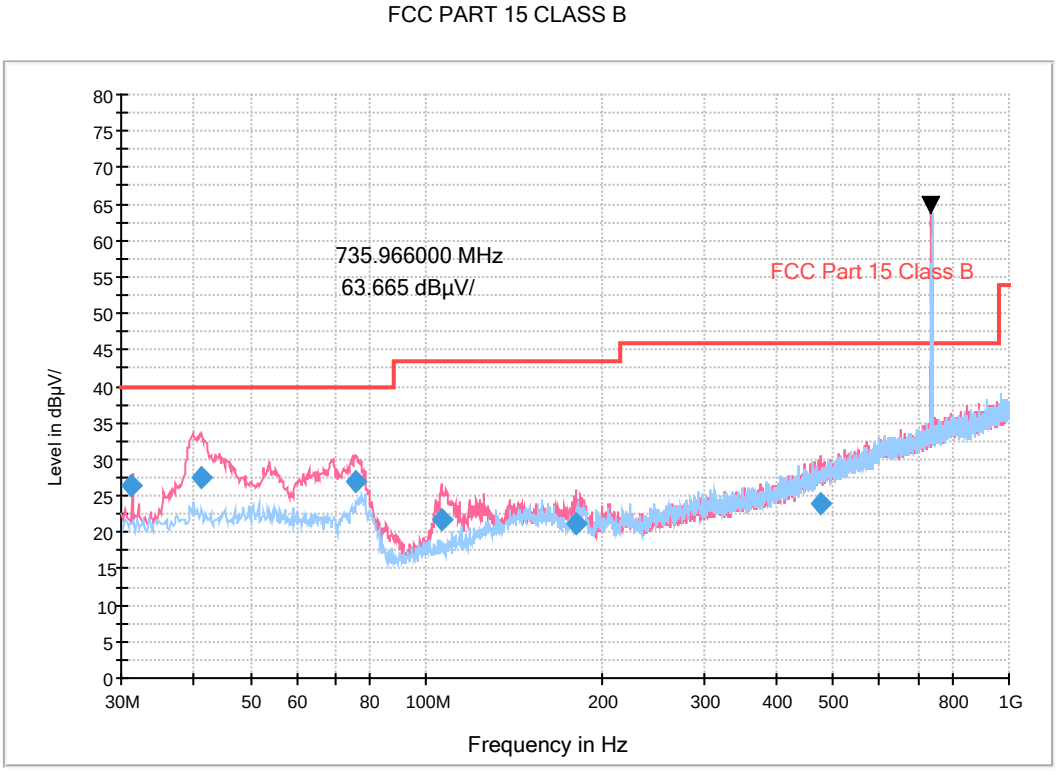


NOTE. 1. Carrier Frequency: RX 881.466 ㎒

2. These are signals for fundamental frequency from the base station

Frequency (㎒)	Quasi Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
30.4974	28.9	100.0	V	284.0	18.5	11.1	40.0
40.9544	27.8	100.0	V	51.0	19.4	12.2	40.0
72.4996	25.0	274.9	V	142.0	17.6	15.0	40.0
110.4207	16.8	116.9	V	82.0	16.1	26.7	43.5
153.6809	20.4	100.0	V	102.0	19.5	23.1	43.5
605.0112	27.5	100.0	V	287.0	27.5	18.5	46.0

Figure 18: Radiated Emission (30 ㎒ to 1 ㎓), [EUT + TA] LTE B12+B13 Middle ch Idle

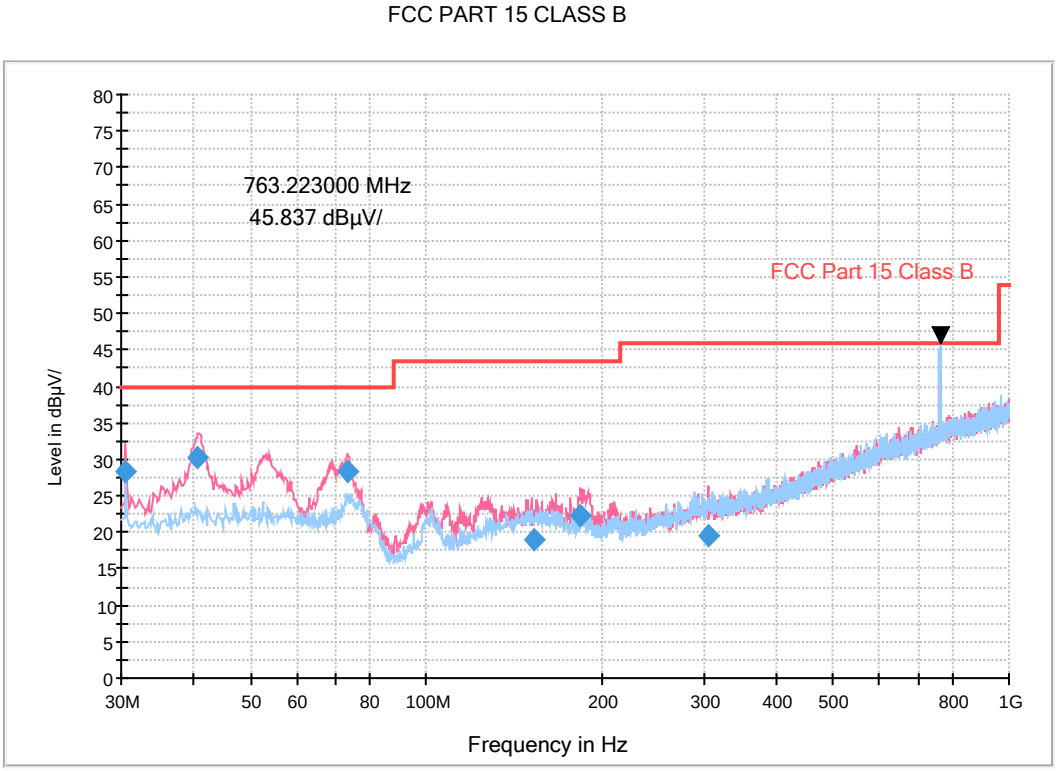


NOTE. 1. Carrier Frequency: RX 735.966 ㎒

2. These are signals for fundamental frequency from the base station

Frequency (㎒)	Quasi Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
31.3157	26.4	174.7	V	272.0	18.6	13.6	40.0
41.1764	27.4	99.8	V	62.0	19.4	12.6	40.0
75.5663	27.0	99.7	V	7.0	16.8	13.0	40.0
106.2227	21.8	99.9	V	122.0	15.7	21.7	43.5
181.2715	21.1	99.9	V	204.0	18.2	22.4	43.5
475.9085	23.8	174.8	V	225.0	24.8	22.2	46.0

Figure 19: Radiated Emission (30 ㎒ to 1 ㎓), [EUT + TA] LTE B14 Middle ch Idle + Front Camera

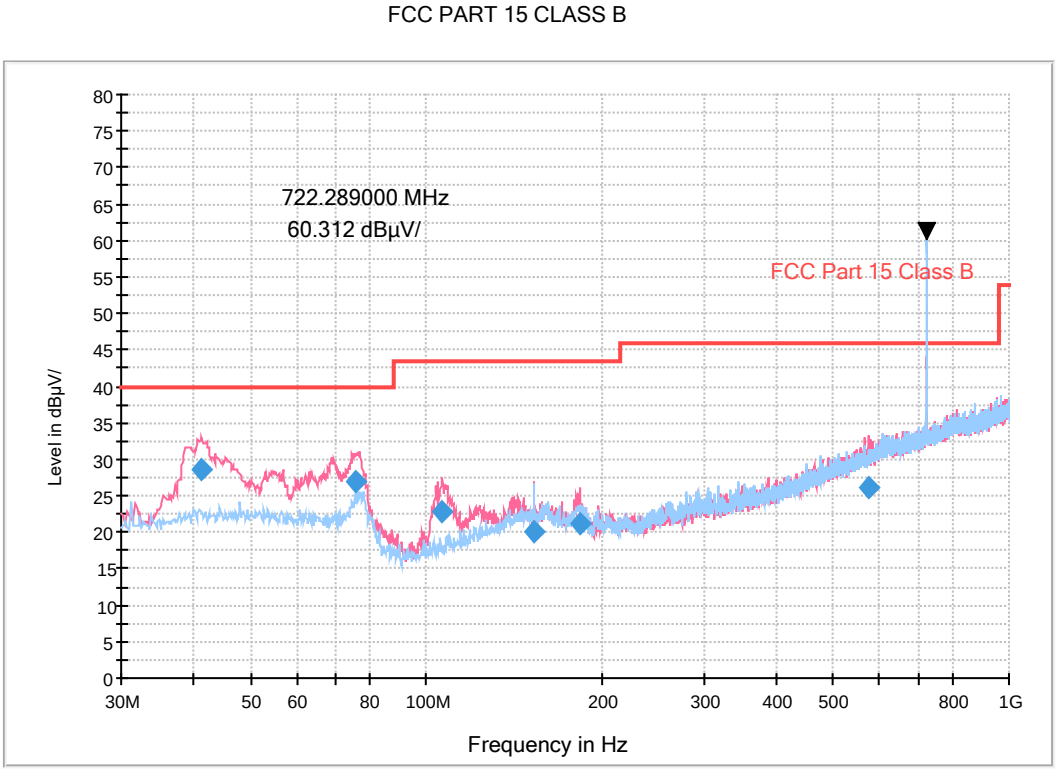


NOTE. 1. Carrier Frequency: RX 763.223 ㎒

2. These are signals for fundamental frequency from the base station

Frequency (㎒)	Quasi Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
30.5942	28.4	100.0	V	337.0	18.5	11.6	40.0
40.6470	30.2	100.0	V	51.0	19.4	9.8	40.0
73.4010	28.2	100.0	V	315.0	17.3	11.8	40.0
153.5780	19.0	100.0	V	104.0	19.5	24.5	43.5
184.3350	22.2	100.0	V	193.0	18.0	21.3	43.5
304.7540	19.4	174.8	V	351.0	20.6	26.6	46.0

Figure 20: Radiated Emission (30 ㎒ to 1 ㎓), [EUT + TA] LTE B29 Middle ch Idle + Rear Camera

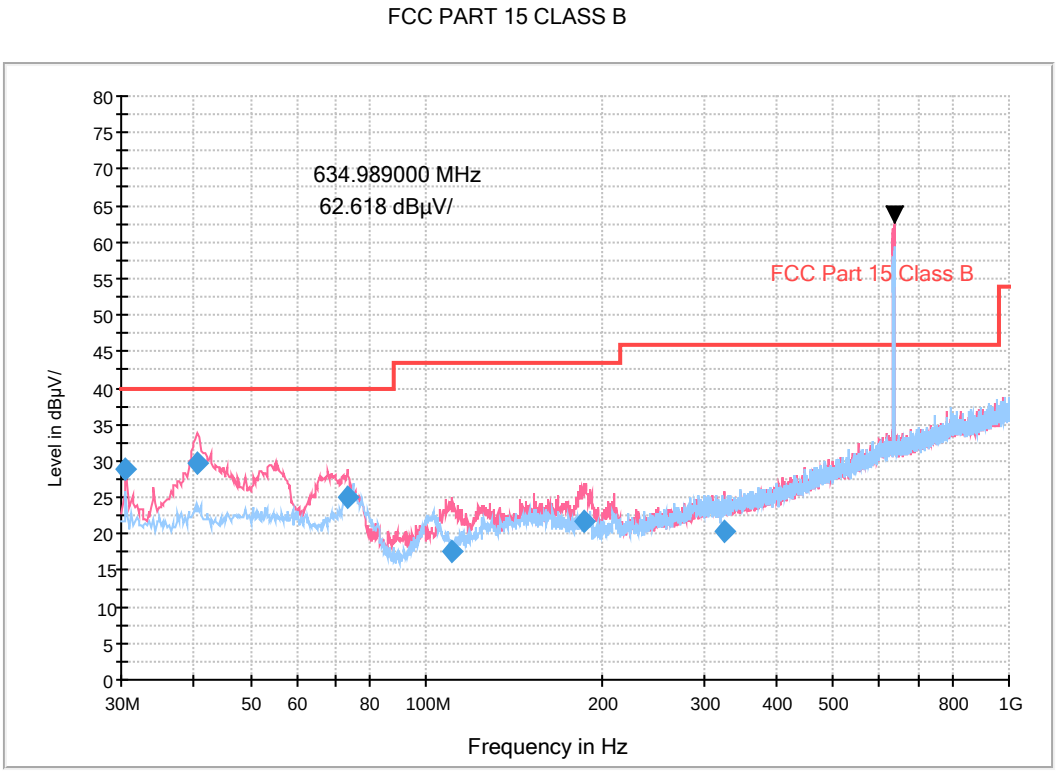


NOTE. 1. Carrier Frequency: RX 722.289 ㎒

2. These are signals for fundamental frequency from the base station

Frequency (㎒)	Quasi Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
41.2538	28.6	100.0	V	144.0	19.4	11.4	40.0
75.8052	27.0	100.0	V	1.0	16.7	13.0	40.0
106.8260	22.8	100.0	V	109.0	15.7	20.7	43.5
153.4670	20.1	125.3	V	66.0	19.5	23.4	43.5
183.6376	21.3	100.0	V	223.0	18.0	22.2	43.5
576.5276	26.2	291.7	V	315.0	27.0	19.8	46.0

Figure 21: Radiated Emission (30 ㎒ to 1 ㎓), [EUT + TA] LTE B71+5G NR n71 Middle ch Idle



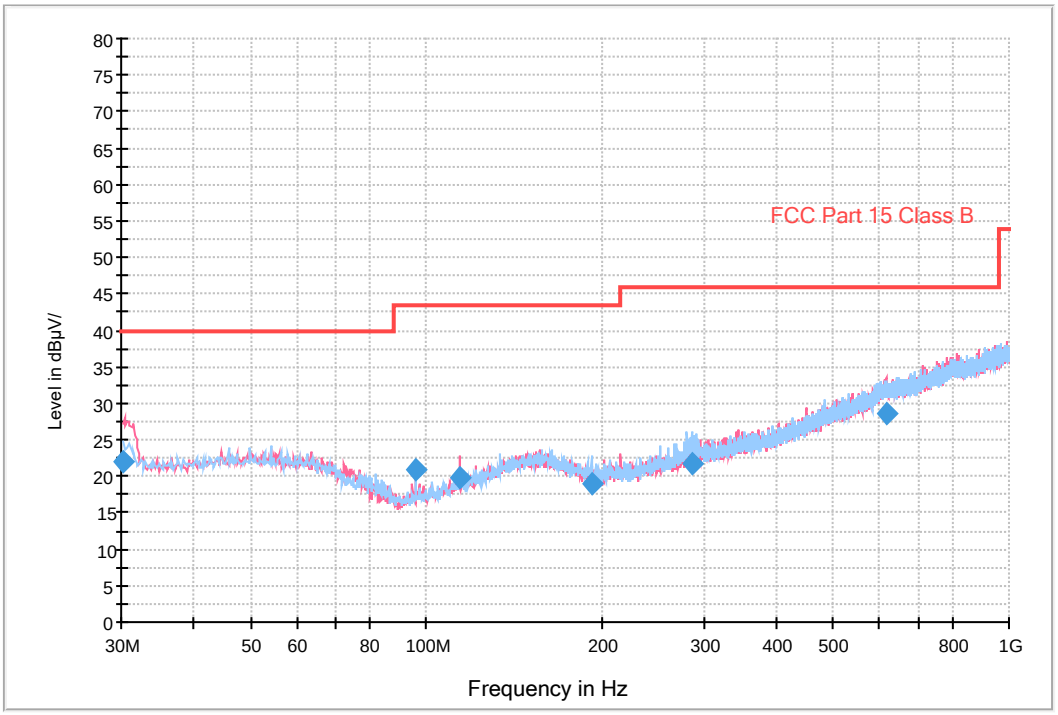
NOTE. 1. Carrier Frequency: RX 634.989 ㎒

2. These are signals for fundamental frequency from the base station

Frequency (㎒)	Quasi Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
30.4791	28.8	100.0	V	292.0	18.5	11.2	40.0
40.3986	29.8	100.0	V	47.0	19.4	10.2	40.0
73.3160	25.0	274.8	V	128.0	17.3	15.0	40.0
110.3871	17.7	100.0	V	59.0	16.1	25.8	43.5
186.7632	21.7	100.0	V	175.0	17.8	21.8	43.5
324.3768	20.4	274.8	V	6.0	21.1	25.6	46.0

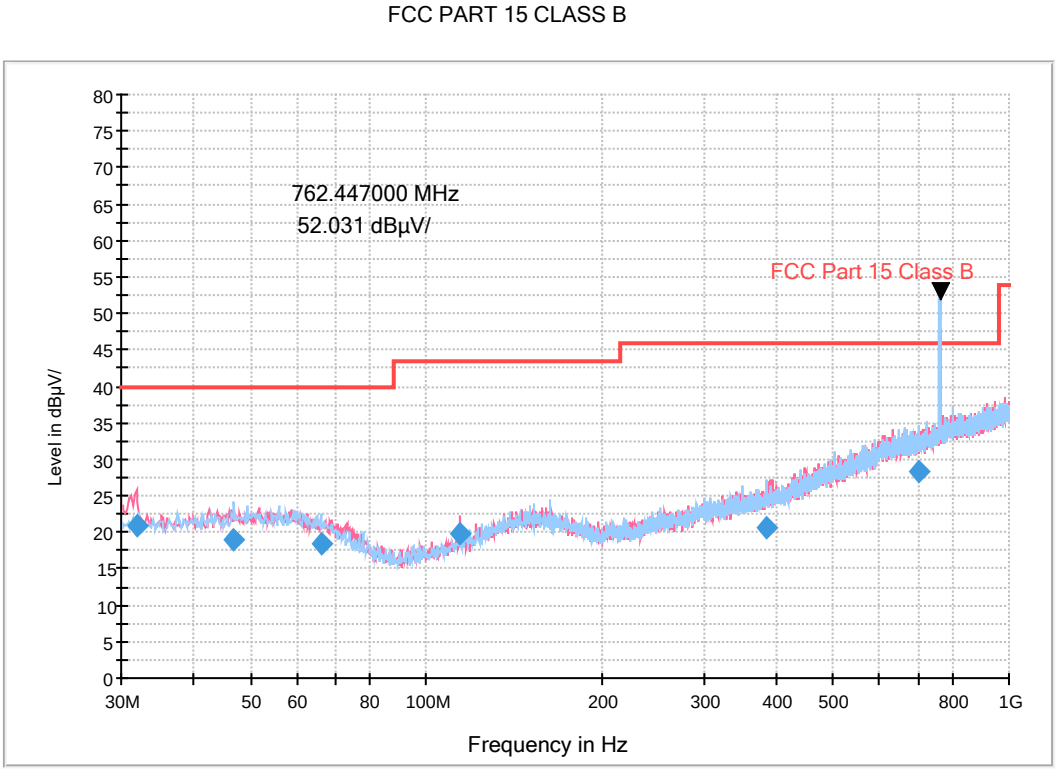
Figure 22: Radiated Emission (30 ㎒ to 1 ㎓), [EUT + Earphone] Video + Audio

FCC PART 15 CLASS B



Frequency (㎒)	Quasi Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
30.3484	22.0	100.0	V	0.0	18.5	18.0	40.0
95.9304	21.0	206.8	H	360.0	14.7	22.5	43.5
114.4429	19.9	200.0	V	278.0	16.5	23.6	43.5
191.9914	19.0	100.0	H	134.0	17.4	24.5	43.5
285.1985	21.7	116.7	H	329.0	20.0	24.3	46.0
614.6352	28.5	190.8	V	160.0	27.6	17.5	46.0

Figure 23: Radiated Emission (30 ㎒ to 1 ㎓), [EUT + Earphone] LTE B14 Middle ch Idle + Front Camera



NOTE. 1. Carrier Frequency: RX 762.447 ㎒

2. These are signals for fundamental frequency from the base station

Frequency (㎒)	Quasi Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
31.9119	21.0	100.0	V	155.0	18.6	19.0	40.0
46.7325	19.1	192.7	H	330.0	19.8	20.9	40.0
66.0869	18.3	117.9	H	175.0	18.7	21.7	40.0
114.4906	19.9	191.8	V	224.0	16.5	23.6	43.5
384.0090	20.8	225.1	H	251.0	22.4	25.2	46.0
701.0752	28.4	174.9	H	279.0	28.7	17.6	46.0

5.2.2 For Measurement Above 1 ㎓

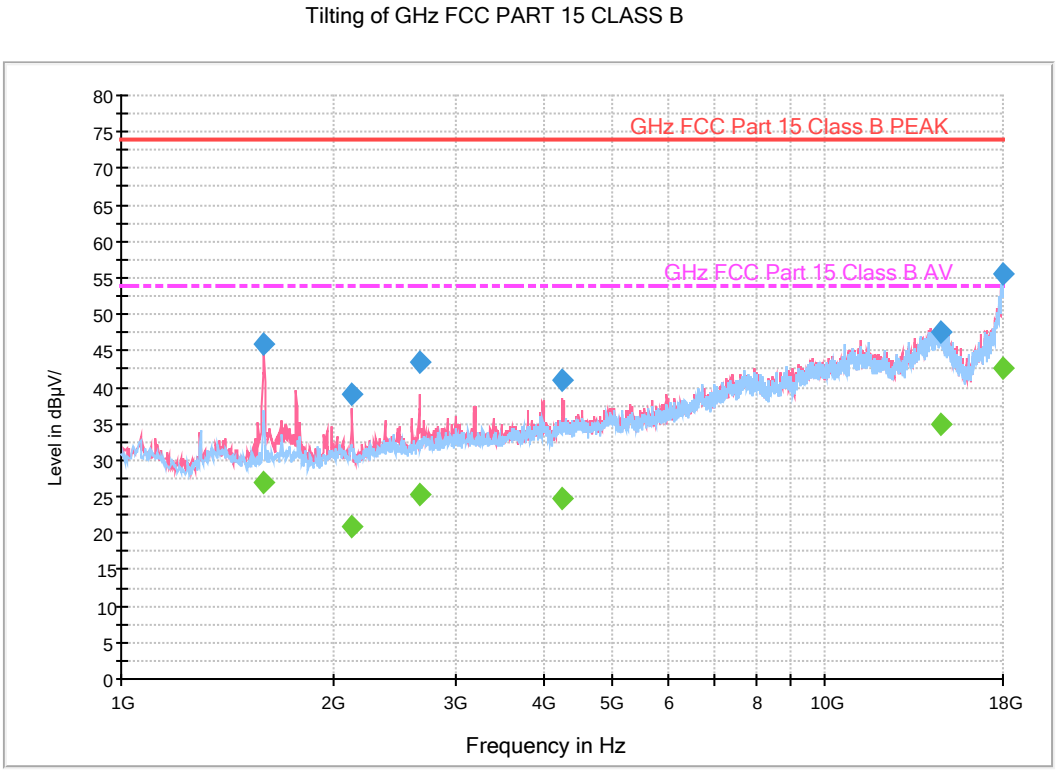
The test results of radiated emission provide the following information:

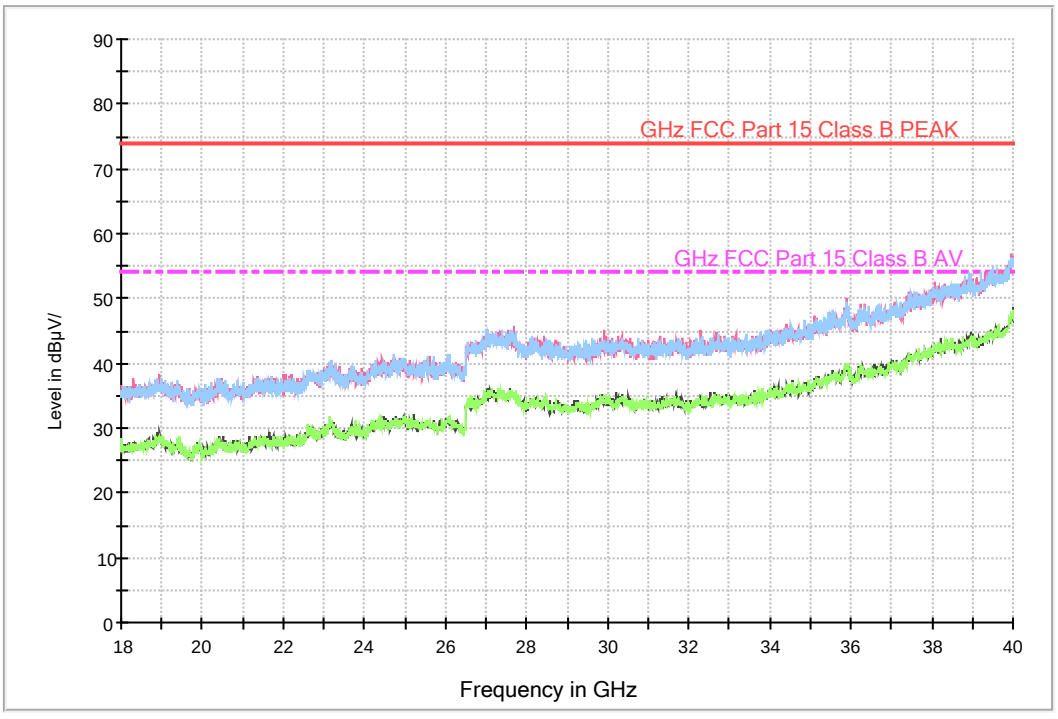
Used Test Standard	47 CFR PART 15 Subpart B Class B ANSI C63.4-2014
Detector	Peak mode: Peak (RBW: 1 ㎒, VBW: 3 ㎒) CISPR-Average mode: Peak (RBW: 1 ㎒, VBW: 10 Hz)
Highest Frequency	40 ㎓
Tested Frequency Range	1 ㎓ to 40 ㎓
Worst Case of Operating Mode	[EUT+Notebook PC] Data Communication (Internal) [EUT + TA] Video + Audio Wireless Charging (PHONE TO PHONE) Wireless Charging (PHONE TO WATCH) LTE B14 Middle ch Idle + Front Camera LTE B29 Middle ch Idle + Rear Camera [EUT + Earphone] Video + Audio LTE B14 Middle ch Idle + Front Camera
Measurement Distance	3 m
Test Site	3 m Semi Anechoic Chamber #1
Temperature	22.7 – 23.4 °C
Relative Humidity	45.2 – 46.1 %
Test Date	May 13, 2021 – May 24, 2021

- Calculation Formula:

1. POL. H = Horizontal, POL. V = Vertical
2. Peak or CAverage = Reading (Receiver Reading) + Corr.
3. Corr. (Correction Factor) = Antenna Factor+ Cable Loss –Amplifier Gain
4. Margin = Limit - Peak or CAverage

Figure 24: Radiated Emission (1 ㎓ to 40 ㎓), [EUT+Notebook PC] Data Communication (Internal)



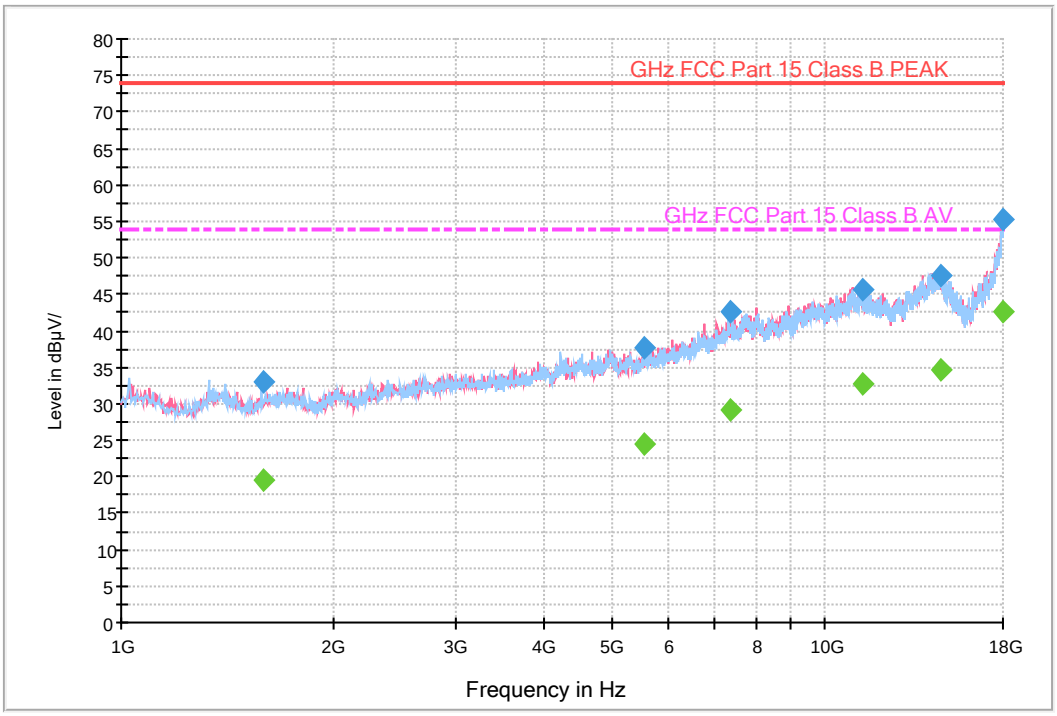


Frequency (㎒)	Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
1598.3250	45.8	125.7	V	214.0	-26.2	28.2	74.0
2133.4150	39.1	149.6	V	190.0	-24.8	34.9	74.0
2664.4550	43.4	125.7	V	11.0	-22.5	30.6	74.0
4253.1200	40.9	202.4	V	41.0	-18.3	33.1	74.0
1 4686.8400	47.5	100.0	V	31.0	0.1	26.5	74.0
1 7966.4948	55.6	189.4	V	130.0	9.3	18.4	74.0

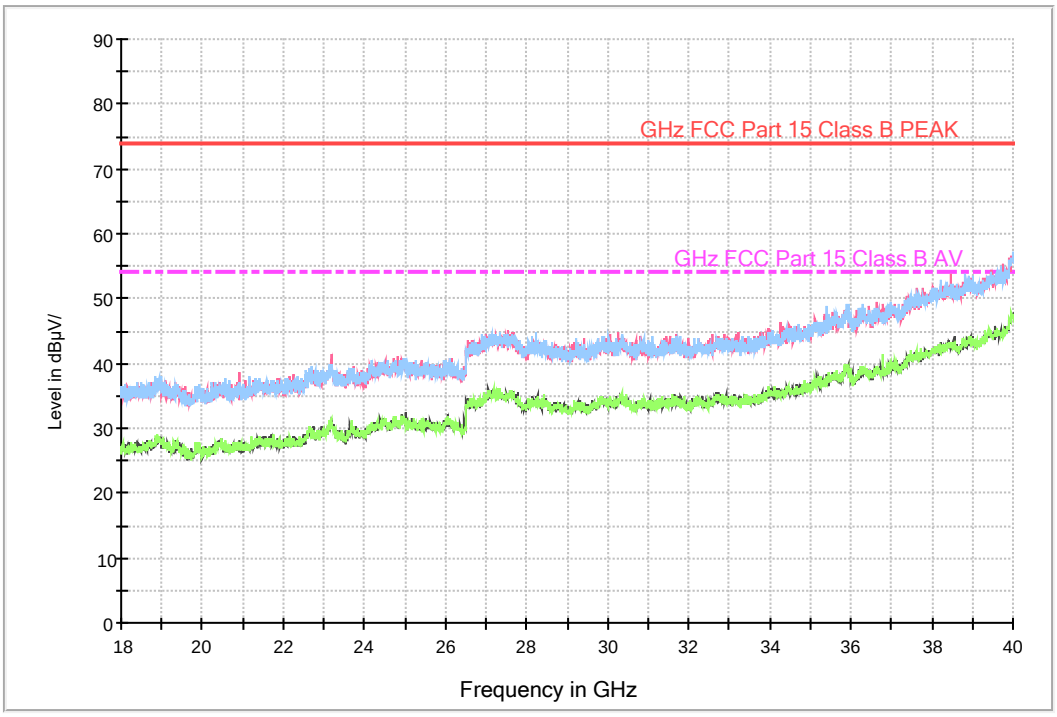
Frequency (㎒)	CAverage (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
1598.3250	26.9	125.7	V	214.0	-26.2	27.1	54.0
2133.4150	20.9	149.6	V	190.0	-24.8	33.1	54.0
2664.4550	25.2	125.7	V	11.0	-22.5	28.8	54.0
4253.1200	24.8	202.4	V	41.0	-18.3	29.2	54.0
1 4686.8400	35.0	100.0	V	31.0	0.1	19.0	54.0
1 7966.4948	42.5	189.4	V	130.0	9.3	11.5	54.0

Figure 25: Radiated Emission (1 ㎓ to 40 ㎓), [EUT + TA] Video + Audio

Tilting of GHz FCC PART 15 CLASS B



Tilting of GHz FCC PART 15 CLASS B_18~40GHz

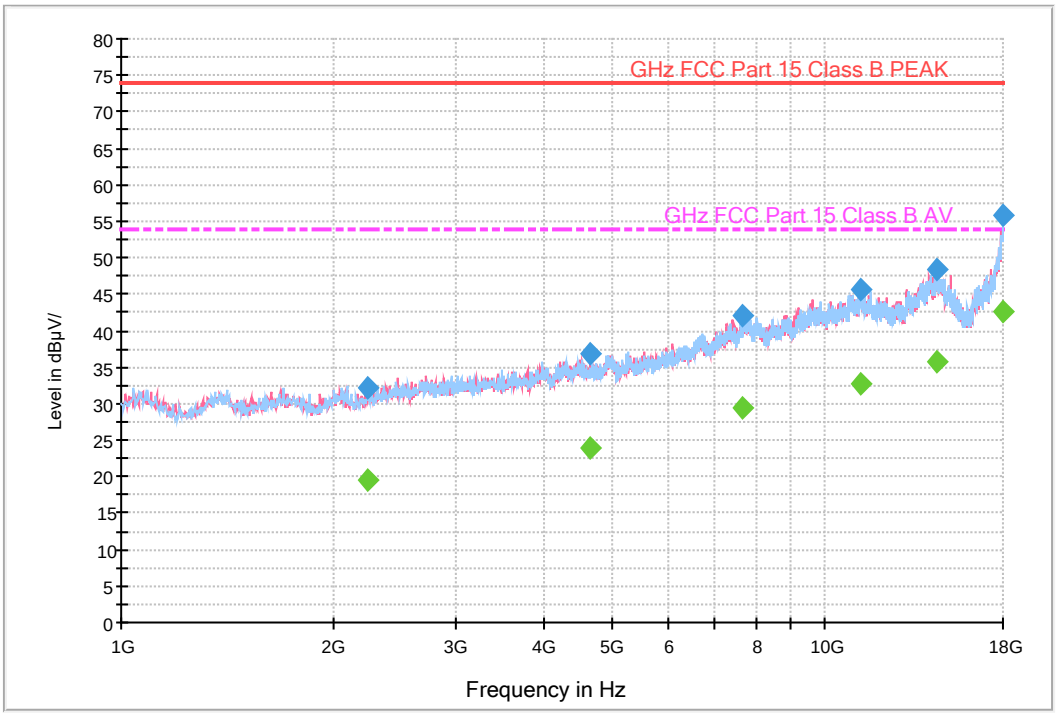


Frequency (㎒)	Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
1594.0700	33.0	203.5	H	206.0	-26.3	41.0	74.0
5552.8600	37.7	249.9	V	280.0	-15.8	36.3	74.0
7387.8200	42.6	260.6	V	163.0	-10.9	31.4	74.0
1 1329.7400	45.6	125.7	H	59.0	-3.8	28.4	74.0
1 4726.2550	47.6	139.6	V	4.0	0.1	26.4	74.0
1 7991.1836	55.2	306.5	V	104.0	9.6	18.8	74.0

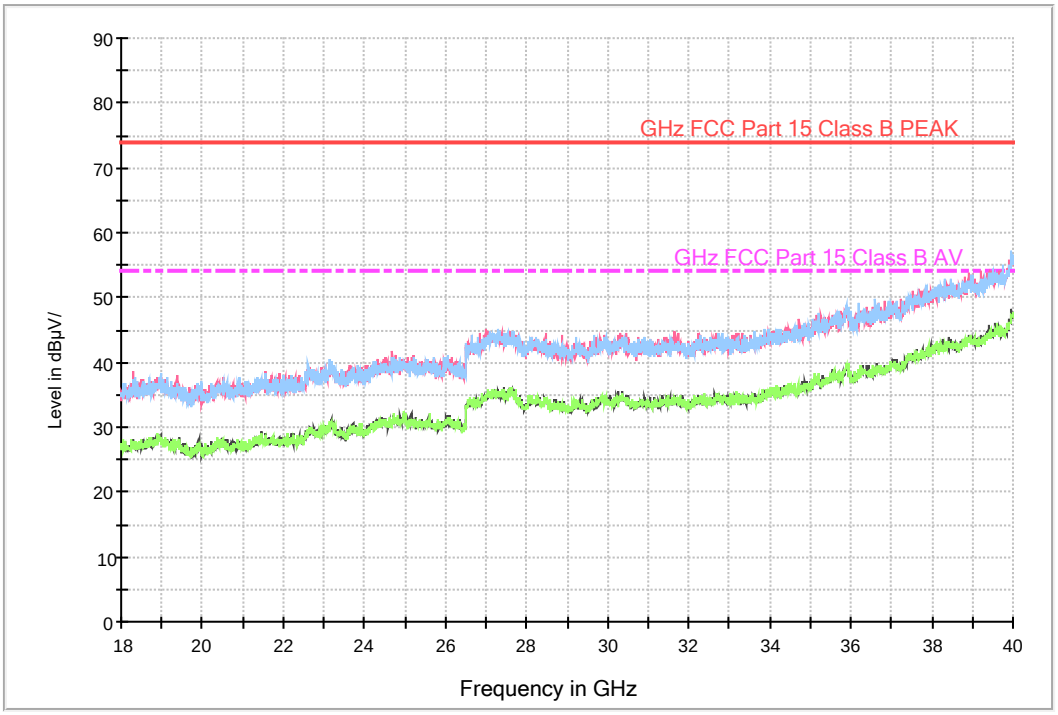
Frequency (㎒)	CAverage (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
1594.0700	19.6	203.5	H	206.0	-26.3	34.4	54.0
5552.8600	24.5	249.9	V	280.0	-15.8	29.5	54.0
7387.8200	29.1	260.6	V	163.0	-10.9	24.9	54.0
1 1329.7400	32.8	125.7	H	59.0	-3.8	21.2	54.0
1 4726.2550	34.7	139.6	V	4.0	0.1	19.3	54.0
1 7991.1836	42.6	306.5	V	104.0	9.6	11.4	54.0

Figure 26: Radiated Emission (1 ㎓ to 40 ㎓), [EUT + TA] Wireless Charging (PHONE TO PHONE)

Tilting of GHz FCC PART 15 CLASS B



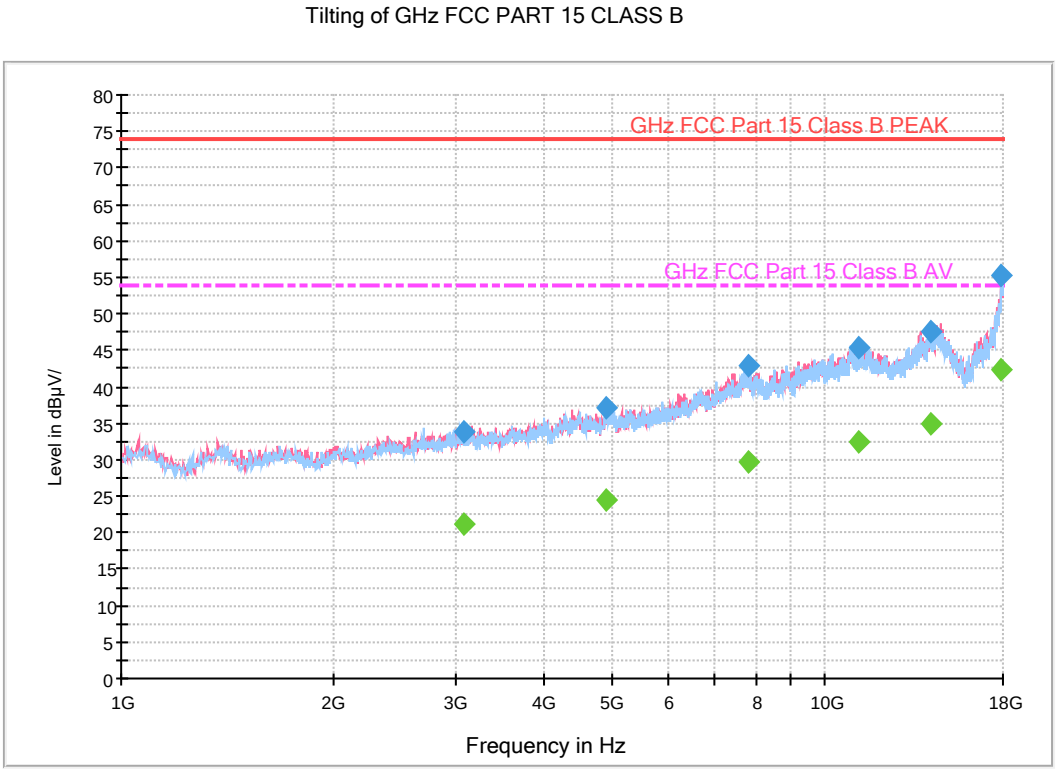
Tilting of GHz FCC PART 15 CLASS B_18~40GHz

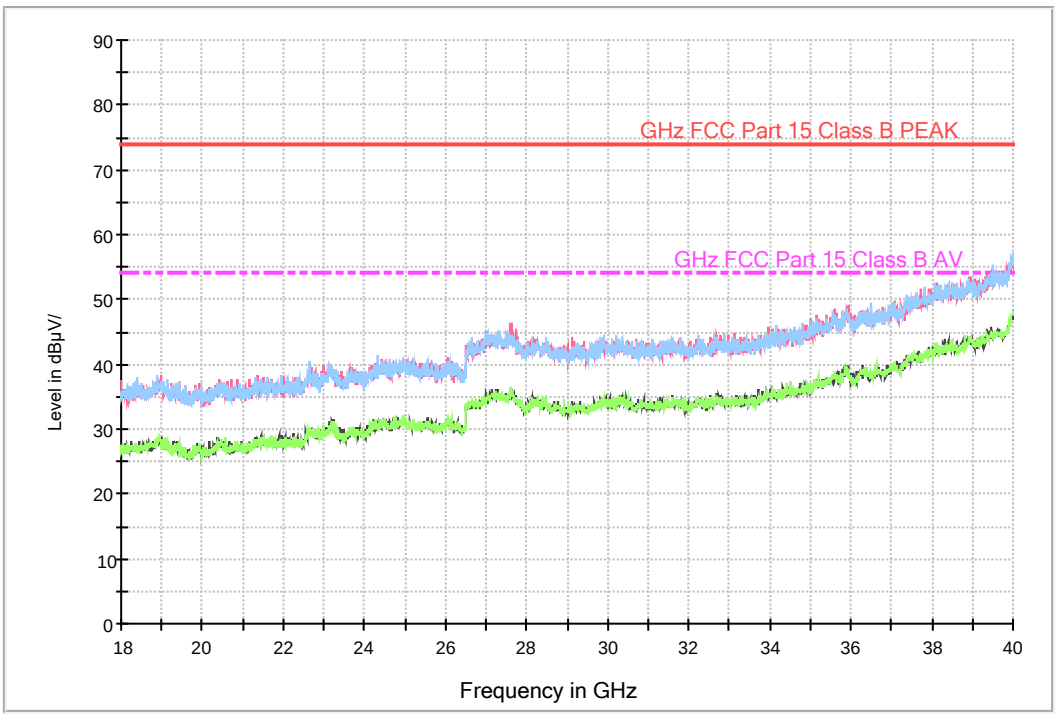


Frequency (㎒)	Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
2247.7450	32.2	138.7	V	50.0	-24.2	41.8	74.0
4661.9750	36.8	204.6	H	133.0	-17.3	37.2	74.0
7644.9100	42.1	175.5	V	351.0	-10.4	31.9	74.0
1 1280.5500	45.5	150.0	V	36.0	-3.9	28.5	74.0
1 4487.9150	48.3	231.4	V	350.0	0.4	25.7	74.0
1 7989.5700	55.8	200.5	H	300.0	9.6	18.2	74.0

Frequency (㎒)	CAverage (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
2247.7450	19.5	138.7	V	50.0	-24.2	34.5	54.0
4661.9750	24.0	204.6	H	133.0	-17.3	30.0	54.0
7644.9100	29.4	175.5	V	351.0	-10.4	24.6	54.0
1 1280.5500	32.8	150.0	V	36.0	-3.9	21.2	54.0
1 4487.9150	35.7	231.4	V	350.0	0.4	18.3	54.0
1 7989.5700	42.5	200.5	H	300.0	9.6	11.5	54.0

Figure 27: Radiated Emission (1 ㎓ to 40 ㎓), [EUT + TA] Wireless Charging (PHONE TO WATCH)

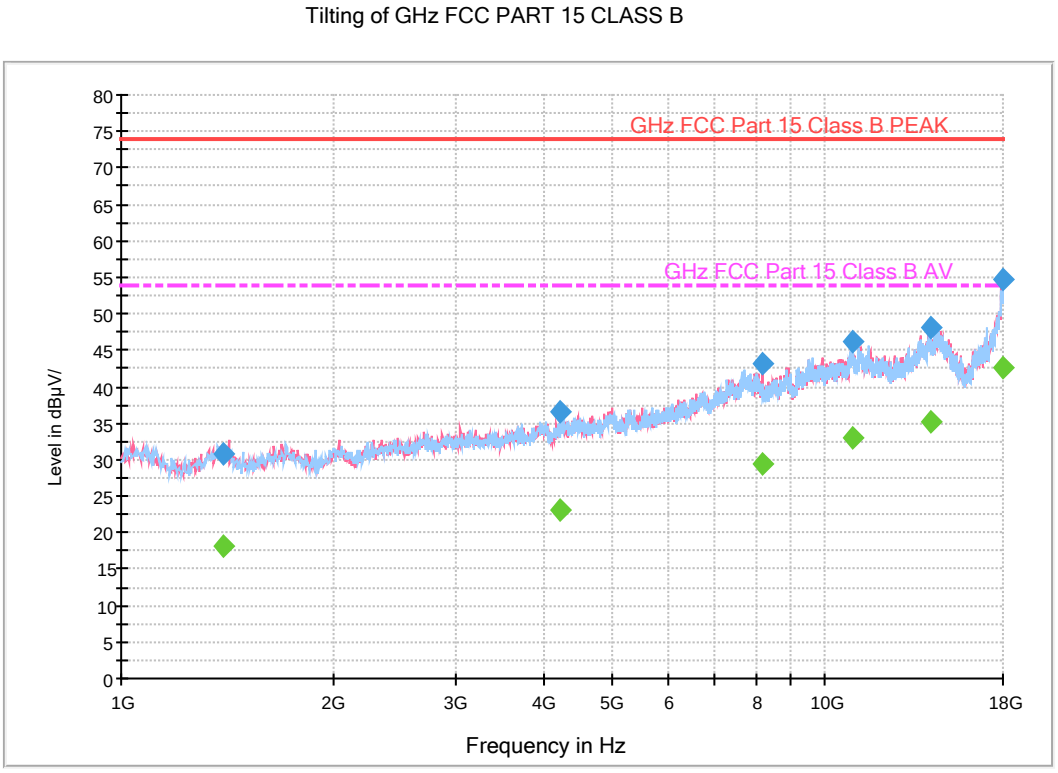


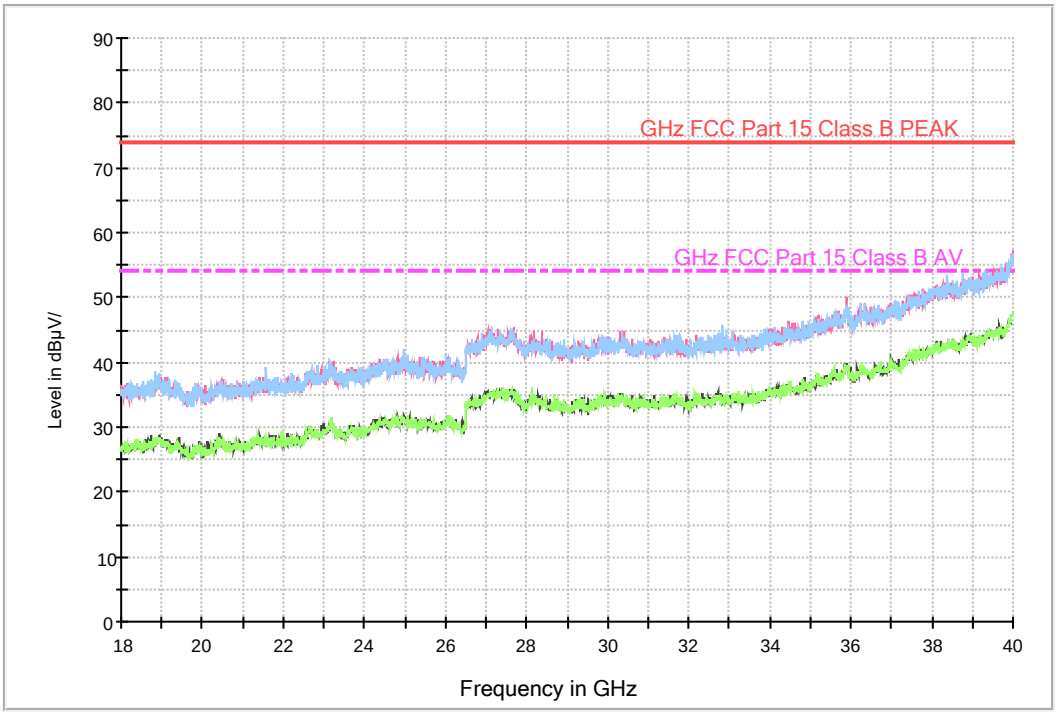


Frequency (㎒)	Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
3071.5300	33.8	100.0	V	257.0	-21.4	40.2	74.0
4900.4250	37.1	260.4	V	3.0	-16.8	36.9	74.0
7832.0500	42.8	261.4	V	71.0	-10.3	31.2	74.0
1 1192.4750	45.4	150.0	H	291.0	-4.0	28.6	74.0
1 4204.6800	47.7	100.0	V	187.0	-0.3	26.3	74.0
1 7940.0150	55.1	139.8	V	314.0	8.9	18.9	74.0

Frequency (㎒)	CAverage (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
3071.5300	21.1	100.0	V	257.0	-21.4	32.9	54.0
4900.4250	24.5	260.4	V	3.0	-16.8	29.5	54.0
7832.0500	29.7	261.4	V	71.0	-10.3	24.3	54.0
1 1192.4750	32.6	150.0	H	291.0	-4.0	21.4	54.0
1 4204.6800	34.9	100.0	V	187.0	-0.3	19.1	54.0
1 7940.0150	42.3	139.8	V	314.0	8.9	11.7	54.0

Figure 28: Radiated Emission (1 ㎓ to 40 ㎓), [EUT + TA] LTE B14 Middle ch Idle + Front Camera



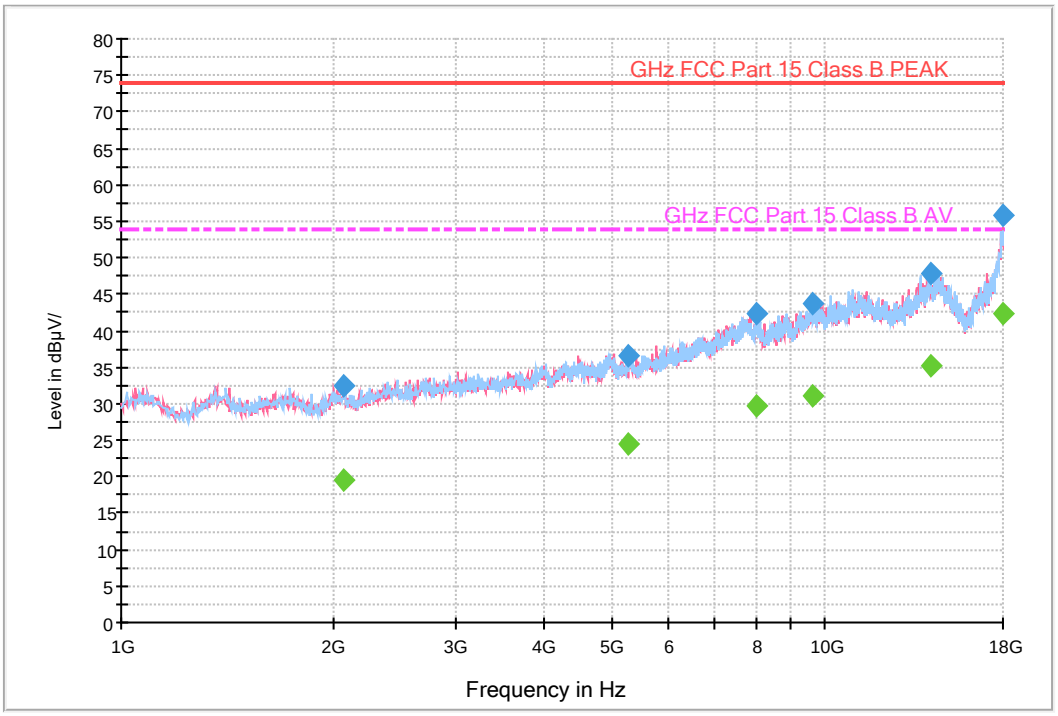


Frequency (㎒)	Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
1401.0600	30.9	100.0	V	112.0	-26.8	43.1	74.0
4207.9350	36.7	174.6	H	289.0	-18.5	37.3	74.0
8185.6900	43.1	150.0	V	98.0	-10.3	30.9	74.0
1 0972.4550	46.1	139.8	H	275.0	-4.3	27.9	74.0
1 4172.5050	48.1	139.6	V	309.0	-0.4	25.9	74.0
1 7991.9230	54.7	100.0	V	65.0	9.6	19.3	74.0

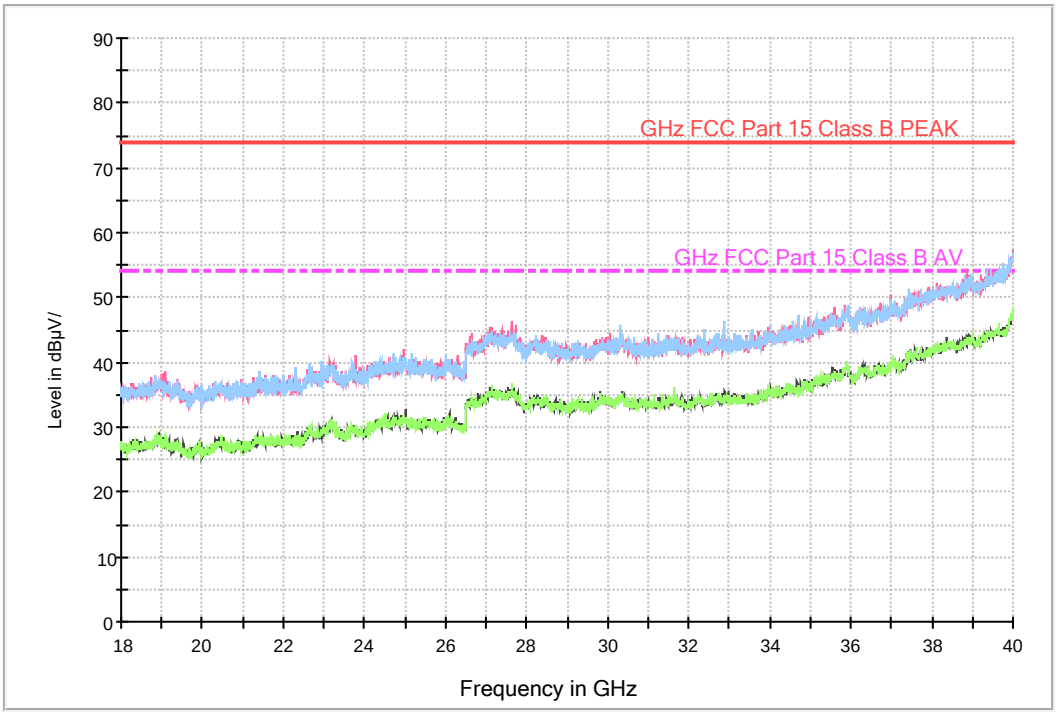
Frequency (㎒)	CAverage (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
1401.0600	18.2	100.0	V	112.0	-26.8	35.8	54.0
4207.9350	23.1	174.6	H	289.0	-18.5	30.9	54.0
8185.6900	29.4	150.0	V	98.0	-10.3	24.6	54.0
1 0972.4550	33.0	139.8	H	275.0	-4.3	21.0	54.0
1 4172.5050	35.2	139.6	V	309.0	-0.4	18.8	54.0
1 7991.9230	42.5	100.0	V	65.0	9.6	11.5	54.0

Figure 29: Radiated Emission (1 ㎓ to 40 ㎓), [EUT + TA] LTE B29 Middle ch Idle + Rear Camera

Tilting of GHz FCC PART 15 CLASS B



Tilting of GHz FCC PART 15 CLASS B_18~40GHz

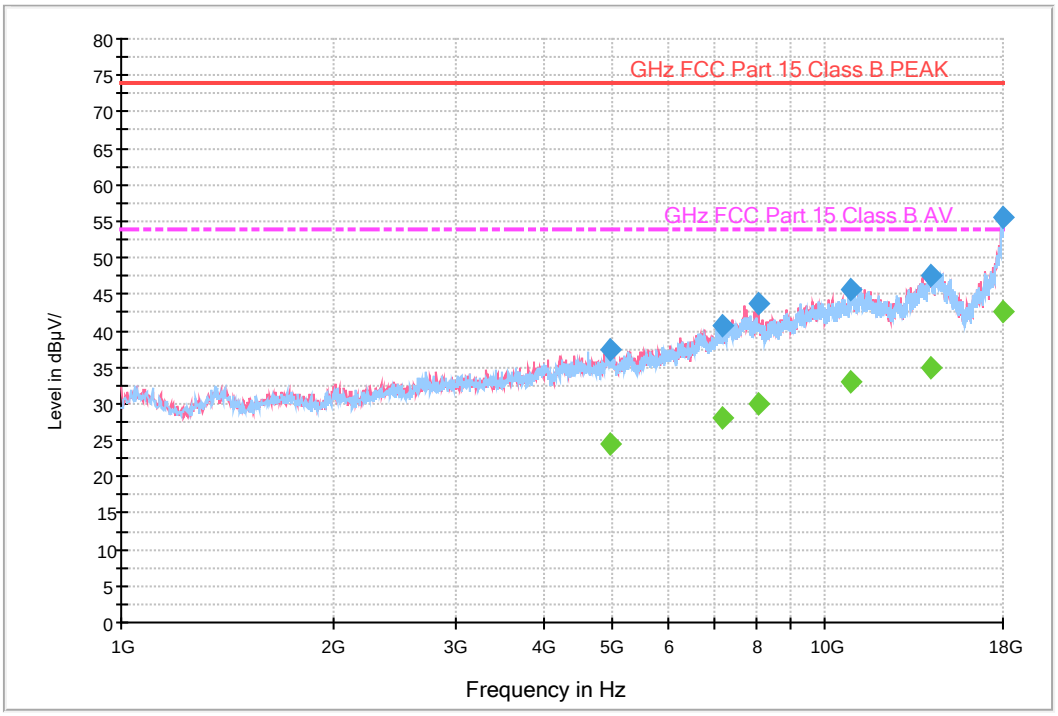


Frequency (㎒)	Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
2074.5300	32.4	100.0	H	71.0	-25.0	41.6	74.0
5255.7850	36.6	150.0	V	346.0	-16.2	37.4	74.0
8032.7350	42.4	150.0	H	287.0	-10.2	31.6	74.0
9659.5250	43.8	350.0	V	234.0	-8.0	30.2	74.0
1 4167.6600	47.7	189.5	V	272.0	-0.4	26.3	74.0
1 7975.8606	55.7	150.0	V	20.0	9.4	18.3	74.0

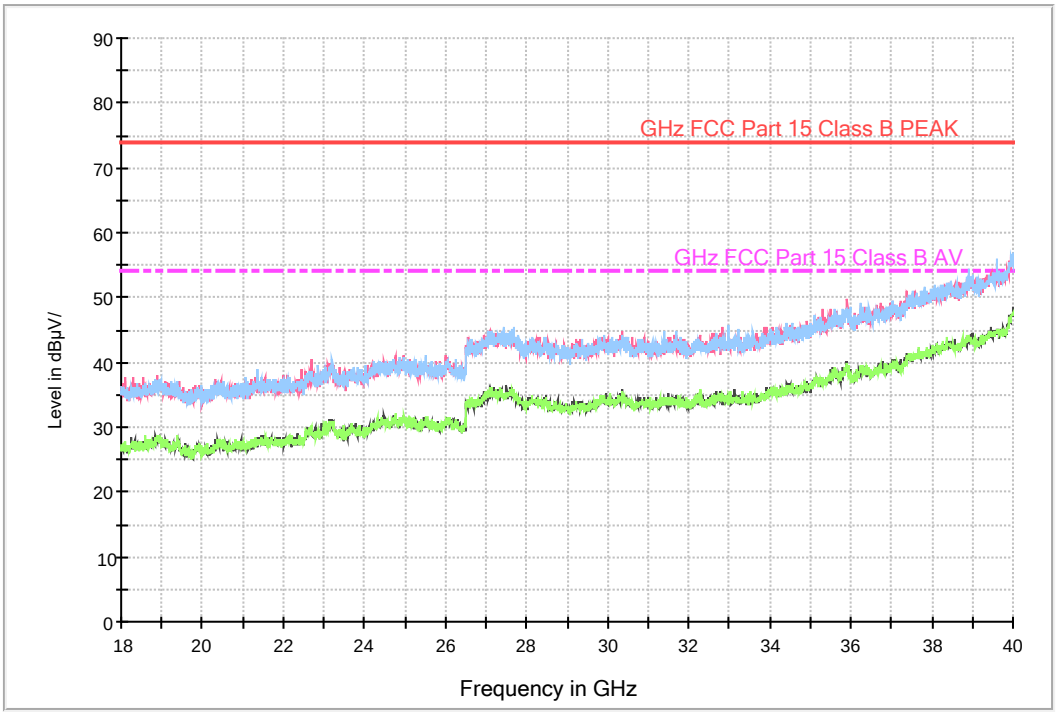
Frequency (㎒)	CAverage (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
2074.5300	19.4	100.0	H	71.0	-25.0	34.6	54.0
5255.7850	24.4	150.0	V	346.0	-16.2	29.6	54.0
8032.7350	29.8	150.0	H	287.0	-10.2	24.2	54.0
9659.5250	31.2	350.0	V	234.0	-8.0	22.8	54.0
1 4167.6600	35.2	189.5	V	272.0	-0.4	18.8	54.0
1 7975.8606	42.4	150.0	V	20.0	9.4	11.6	54.0

Figure 30: Radiated Emission (1 ㎓ to 40 ㎓), [EUT + Earphone] Video + Audio

Tilting of GHz FCC PART 15 CLASS B



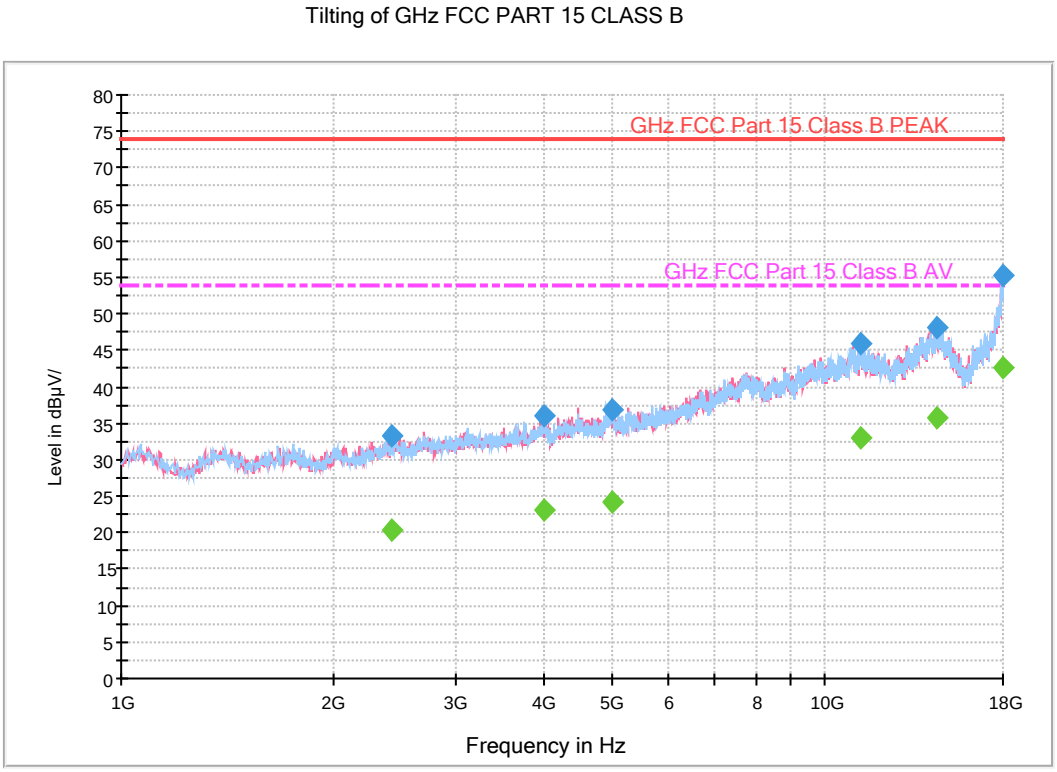
Tilting of GHz FCC PART 15 CLASS B_18~40GHz

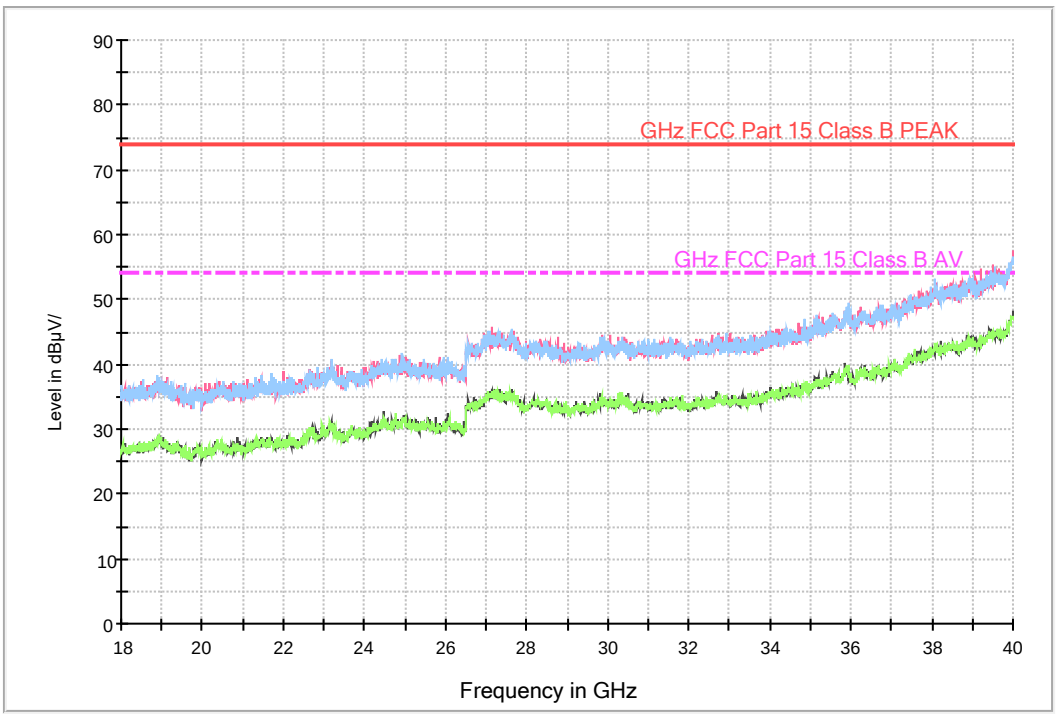


Frequency (㎒)	Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
4978.6100	37.3	150.0	V	308.0	-16.7	36.7	74.0
7183.6500	40.7	113.6	V	65.0	-11.5	33.3	74.0
8102.0000	43.8	306.5	V	305.0	-10.2	30.2	74.0
1 0957.7400	45.6	230.4	V	138.0	-4.3	28.4	74.0
1 4221.9050	47.6	349.9	H	189.0	-0.2	26.4	74.0
1 7948.6000	55.5	174.5	H	108.0	9.0	18.5	74.0

Frequency (㎒)	CAverage (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
4978.6100	24.4	150.0	V	308.0	-16.7	29.6	54.0
7183.6500	28.1	113.6	V	65.0	-11.5	25.9	54.0
8102.0000	30.0	306.5	V	305.0	-10.2	24.0	54.0
1 0957.7400	33.1	230.4	V	138.0	-4.3	20.9	54.0
1 4221.9050	34.9	349.9	H	189.0	-0.2	19.1	54.0
1 7948.6000	42.6	174.5	H	108.0	9.0	11.4	54.0

Figure 31: Radiated Emission (1 ㎓ to 40 ㎓), [EUT + Earphone] LTE B14 Middle ch Idle + Front Camera





Frequency (㎒)	Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
2426.0500	33.3	112.4	H	353.0	-23.4	40.7	74.0
3987.9550	36.1	150.0	V	220.0	-19.1	37.9	74.0
5003.8650	36.7	249.9	H	278.0	-16.6	37.3	74.0
1 1276.0800	45.9	125.7	V	162.0	-3.9	28.1	74.0
1 4521.5200	48.2	249.7	V	186.0	0.4	25.8	74.0
1 7991.8790	55.1	100.0	H	0.0	9.6	18.9	74.0

Frequency (㎒)	CAverage (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
2426.0500	20.4	112.4	H	353.0	-23.4	33.6	54.0
3987.9550	23.0	150.0	V	220.0	-19.1	31.0	54.0
5003.8650	24.2	249.9	H	278.0	-16.6	29.8	54.0
1 1276.0800	33.0	125.7	V	162.0	-3.9	21.0	54.0
1 4521.5200	35.7	249.7	V	186.0	0.4	18.3	54.0
1 7991.8790	42.6	100.0	H	0.0	9.6	11.4	54.0

6. CONCLUSION

The data collected shows that the **Product Name: Mobile Phone and Model Name: SM-G990U** complies with §15.107 and §15.109 of the FCC rules.

7. APPENDIX A. TEST SETUP PHOTO

Please refer to EMI Test Setup Photo and test setup photo file no. as follows;

Rev. No.	Issue Date	File No.
0	May 26, 2021	HCT-EM-2105-FC006-P

End of report